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Eunuchs or placemen?

One of the strongest arguments proposed against the Oakes scheme for a national body for polytechnics and colleges was that the working party had suggested that members should be chosen on a representative basis - so many from CLEA, so many from Naffie, and so on. It was strongly argued that such a composition would be a recipe for mediocrity and/or sectional pleading. By implication it was emphasized that the system of appointment to the University Grants Committee and the research councils, that is the appointment of members in an individual capacity by the Secretary of State, was far superior. *Apparatchiks* operating as delegates (perhaps they might be described as "eunuchs" in another more furious contemporary controversy) should not be allowed to take academic decisions, the argument ran; these should be reserved for robust individuals acting as peers.

This argument is not really as sound as its supporters suppose. It has two important weaknesses. The first is that it undervalues the claims of accountability and so maybe undermines the possibility of building consent to necessary change. In the years of expansion consent to new policies could be taken almost for granted, give or take a few grumbles. But in a time of austerity consent is very difficult to build. The policies that must be proposed have obvious and painful costs. The degree of trust is very much diminished. This has been well demonstrated by the furious but confused reaction to the UGC's distribution of

the beginning of July of the cuts made by the Government last winter.

Although the UGC system remains the best possible method for distributing public money to autonomous universities, and so deserves the strongest possible defence, this does not mean that those who criticize its lack of accountability, who feel that peer-review is hardly a feasible method of share out a billion pounds, should not be listened to seriously. It certainly does not mean that a UGC-type system could be created on the other side of the binary line that could reproduce the efficient as opposed to the dignified parts of the UGC's operation.

The second weakness is much more serious. It is that the traditional system of appointing individuals to bodies like the UGC and the research councils by the Secretary of State can very easily be undermined if it ever becomes prey to partisan patronage. The power of patronage that lies in the hands of even the Secretary of State for Education and Science is very considerable. With only faint exceptions that power has been delicately and liberally used in the past.

Yet there is absolutely no power to prevent a minister packing appointed bodies with placemen or at any rate punishing critics by denying them appointments to which they are fully entitled on academic merit and administrative experience. Sadly something much too close for comfort to the second seems to have happened to Professor Halsey of Oxford University who apparently is not to be reappointed to a second term on the Social Science Research Council although this is a normal expectation. As Professor Halsey is both a distinguished and an engaged social scientist and has been long associated with the SSRC, the true reason for this non-reappointment must lie elsewhere - precisely where is not very difficult to imagine.

The Halsey affair shows just how much our traditional system of individual appointment to public bodies, a tradition that is especially important in the academic world, depends on a continued commitment to high standards of disinterested public administration. Once that commitment has been called into question, however slightly, the system immediately appears much less attractive. Added to this is the perhaps inevitable difficulty that appointed bodies will experience in engineering the necessary consent for the difficult decisions that will be forced upon them. These are most important questions that affect the quality of academic freedom, the standard of public administration, the possibility of maintaining a publicly financed but autonomous university system, and, most immediately on the policy agenda, the shape, composition and powers of the now inevitable national body for the polytechnics and colleges. After all, when the choice was between "eunuch" delegates and independent peers, the decision was clear. When and if the choice comes to be between well chosen delegates and partisan placemen, the right decision will be far from clear.

What is the answer is that their alternative to the DES plan must be complemented by a broader statement of why in a positive sense local authority involvement in higher education must be maintained and strengthened - not just in the interests of local authorities but of higher education also. Perhaps it is too much to expect local councils to produce in three months the coherent and sophisticated justification of a pluralist and diversified form of higher education which they have failed to produce in the last ten years. But they should try. The alternative is a depressing determination to central control and to the closure of the binary hopes of the 1960s for a breakthrough from a stultifyingly dominant university tradition.

end it will come down to what those who work in the polytechnics and colleges want. If a majority believes that the present arrangements have become intolerable, there is nothing in the long run that can prevent the drift towards the centralist and corporatist solution proposed by the DES. So local authorities must realize that they are involved in a campaign to win the hearts and minds of those employed in the polytechnics and colleges. They must not concentrate so exclusively on fighting the DES on the political and bureaucratic battlefield that they forget this second and more vital front.

What this means is that their alternative to the DES plan must be complemented by a broader statement of why in a positive sense local authority involvement in higher education must be maintained and strengthened - not just in the interests of local authorities but of higher education also. Perhaps it is too much to expect local councils to produce in three months the coherent and sophisticated justification of a pluralist and diversified form of higher education which they have failed to produce in the last ten years. But they should try. The alternative is a depressing determination to central control and to the closure of the binary hopes of the 1960s for a breakthrough from a stultifyingly dominant university tradition.

There are many strong arguments against the DES proposal, which *The THES* has emphasized over the past few months and will continue to emphasize as strongly as possible over the next few months. But in the

The local authorities have known since January that the Department of Education and Science is determined to remove the polytechnics and other higher education colleges from their control and to establish instead a quasi-UGC (very quasi) system of national control. This determination expressed so bluntly in the January memorandum is feebly concealed in the July Green Paper with its semblance of a choice between a "DES option" and a "CLEA option". So it can be said with some justice that for more than six months the writing has been on the wall.

Yet the local authorities have done little about it. Of course, their national associations have protested to the DES and have produced their alternative plan which is basically the original Oakes plan slightly refurbished to satisfy the more centralist and cost-effective spirit of 1981. But their negative reaction to the DES's plan has not been complemented, as it must be, by a *raprochement* with the institutions themselves. Indeed the talk instead has been of tightening up articles of government and reducing the rather too limited scope for independent action which the polytechnics and colleges are to enjoy. Yet it is very difficult not to feel that many, perhaps a majority, of those who teach in these institutions are deeply ambivalent about the benefits of continued local

authority control at the least and more probably believe that it may be best to take the plunge into national control. The local authorities have done very little either practically or even rhetorically to persuade such people that they are wrong and to press back. So the strong impression left is that the local authorities' interest in advanced further education is essentially a territorial rather than an educational one.

Of course, in many areas such a criticism is harsh and unfair. Some local authorities continue to take a positive and a sensitive interest in the development of the colleges and polytechnics they maintain. But there are far too many which exhibit negative, indifferent, and even hostile attitudes towards the institutions for which they remain responsible. Dr Nuttgens argues (page 30) that such attitudes are the rule and not the exception and that therefore the lines proposed by the DES is now inevitable. We do not agree, but nor are we blind to the widespread evidence that too many local authorities care far too little for their polytechnics.

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Carlisle: the passive voice

From the point of view of higher education Mr Carlisle's vice was passivity. He allowed the Treasury to wrong-foot the DES immediately after the election by rushing through the policy of full-cost fees for overseas students. Later, he failed to capitalize sufficiently on the second thoughts expressed by many Tories on a policy whose financial and diplomatic ramifications had not been fully understood. When the overseas student fee policy was combined with a large volume cut in spending, the disaster facing higher education reached epic proportions.

Sir Keith Joseph is a more formidable politician but he is unlikely to offer a stouter defence of the system in the new round of cuts being contemplated by the Cabinet. After his recent experience at the Department of Industry, where intractable economic realities confounded his initial doctrine, he is likely to believe that his duty is to do the opposite. In education, where the targets are softer, Sir Keith may see an opportunity to redeem his reputation as one of monetarism's principal practitioners as well as its British theoretician.

Laurie Taylor



"Well gentlemen, I must apologise for calling this meeting before the beginning of term but as my letter explained there are strong Government indications that we must prepare for another round of cuts."

"Vice Chancellor, are you able to tell us the origin of these indications? Where they came from. That sort of thing."

"A very reasonable question, Professor Digby. Actually - and here I must stress the need for a certain degree of confidentiality - they are largely based on something which the Registrar overheard when he recently visited Claridges for dinner. I'm sorry he's not here to tell you himself, but apparently he was sitting at the next table to a small party which included a man who looked remarkably like Dr Rhodes-Boyson. They were talking in loud voices about recent events in the universities and he, the Registrar, was able to catch the import of their remarks. The Rhodes-Boyson figure made a comment which was more or less along the following lines: 'No need to worry, Charles, and here he pulled his companion on the back and patted more Chablis. 'No need to worry, we've got the UGC by the short and curries. And then a few moments later: 'Wait till we chop the big buggers again. That'll put a few more sticks in the back of that Volvo estates.' The Registrar reported that taking the content into account he felt it safe to assume that it was the academic community which was denoted by the phrase 'silly buggers'."

"I wonder, Vice Chancellor, if we have any information about the expression on - shall we call him, the assumed Dr Boyson - on the assumed Dr Boyson's face, while he made these remarks?"

"Apparently he was laughing rather loudly. The Registrar actually went out his way to emphasize this point."

"And, Vice Chancellor, have we any information about the extent of these new cuts?"

"Not directly. The Registrar did, however, hear some figures bandied about at the end of the meal but was not quite sure if they were referred to Governmental budgetary intentions or the appropriate size of the lip. But certainly to ten per cent - mentioned several times."

"On a policy of information, Vice Chancellor, was the Registrar able to identify any of the other guests. This might be highly relevant."

"Indeed, that was exactly on my mind. Unfortunately, however, he felt unable to fit any names to the faces he saw, and put attempts to prompt recollection by showing him a selection of photographs which included a number of senior Cabinet ministers, was unsuccessful in that his only positive identification was of a photograph showing the music hall comedian, Mr Tommy Cooper."

"I wonder, Vice Chancellor, if you might ask you to congratulate the Registrar on his presence of mind, and also, incidentally, his excellent taste in restaurant. This appears to be the most clear-cut policy news since the long-lost days of quinquennial budgeting."

"I entirely agree with you, Professor Haslikor. In fact in anticipation of your approval I have already undertaken to refund the Registrar the cost of his dinner and to instruct him to return to Claridges for further meals. I believe that in this way we may soon have a clear outline of the major elements in the Government's strategy for higher education."

(Loud cries of "Hear hear")

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Top Tories look for compromise on national body

by John O'Leary

Strong pressure was building up this week for the new administration at the Department of Education and Science to find a compromise over the control of polytechnics and colleges of higher education. An influential group of Conservative MPs, councillors and academics is attempting to thrash out a formula which will avoid a further embarrassing confrontation between the Government and the local authorities. And polytechnic directors and college principals are moving towards similar demands.

The first regional discussion of the two alternative plans for a national body, involving the 11 Yorkshire and Humberside authorities, left no doubt about the strength and unanimity of opposition to the DES proposal for central control. The 25 officials and elected representatives at the Leeds meeting were solidly behind alternative plans by the Council of Local Education Authority.

Only a strengthening of the role of regional organizations and a clearly stated place for DES officials as assessors on a national body stood in the way of complete endorsement of the CLEA proposals. A statement issued after the meeting said that there had been unanimous support for the underlying concept of continued local control.

Opposition to the DES version crossed party lines and raised the spectre of further in-fighting between Conservative ministers and councillors. Particular criticism was levelled at the separation of higher education from the provision of non-advanced courses.

Now the Conservatives' national advisory committee on education has set up a working party to find an acceptable compromise before the deadline for consultation at the end of November. Among the members are Sir William Van Straubenzee, a former Minister of Education, Dr Keith Hampson, former shadow minister, and Mr Harry Greenway, a member of the Commons Select Committee on Education.

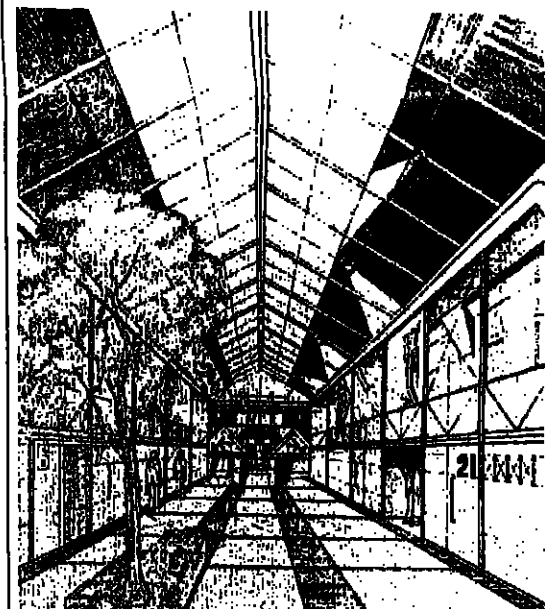
The group has met once under the chairmanship of Mr Maurice Venn, the chairman of the Standing Conference of Regional Advisory Committees, and has invited evidence from a number of national organizations. Local authority members include two former chairmen of the CLEA, Mrs Angela Rumbold and Mr John Horrell.

Mr Dmitri Argyropoulos, chairman of the National Advisory Committee, said this week: "We are hoping that we can come up with a solution which the local authorities can accept. If the Government insists on ploughing on with its present document, Conservative local authorities will be bound to oppose it."

Although the group has reached no conclusions yet, proposals closer to those of the Oakes Committee, which wanted a larger national body but continuing local control, are likely to emerge. Such a solution would be closer to the wishes of the Committee of Directors of Polytechnics, which made similar proposals to the DES shortly before the publication of the Green Paper, and would be likely to find favour among the college principals.

Dr Neil Merritt, chairman of the principals' group of the Standing Conference, told a weekend conference that both the existing alternatives were unacceptable.

Aston launches science park



An artist's impression of the science park planned by Aston University and Birmingham City Council

Aston University and Birmingham City Council this week launched the first stage of a multi-million pound science park, just as Birmingham University and the West Midlands County Council revived their three-year-old plans for a similar project.

The Aston/Birmingham City science and technology development centre is initially being backed by £2.5m from the city council. But Labour leader of the council, Clive Wilkinson, said this week that he ranked the development as important as the National Exhibition Centre and if necessary, up to £40m would be put into it.

The council has bought a 3.5 acre site next to the university and a former factory is being adapted to provide units for small firms, or research and development laboratories, working on sophisticated products.

It is hoped that the science park will provide 5,000 new jobs in five years, and indirectly lead to a further 10,000.

The Birmingham University/West Midlands County Council scheme, first mooted in 1978, has been revived because land near the university campus has just become available. A Birmingham University spokesman said: "There is no conflict here. There is plenty of scope for two developments. It is likely that both schemes will go ahead."

Councillor Wilkinson also said that the Aston partnership did not exclude the possibility of co-operation with Birmingham.

Vice chancellors meet to discuss redundancy

by Ngaio Cregeur

Vice chancellors were meeting this week to decide whether to agree a common redundancy scheme for tenured lecturers and if so, what form of compensation should be offered.

Dr Edward Parkes, the chairman of the University Grants Committee, attended a two day meeting of the Committee of Vice Chancellors and Principals at Essex University. He was expected to report on the progress of crucial talks between his committee and the Department of Education and Science.

Sir Keith Joseph, the new Education Secretary also came back from Japan this week and was to be briefed on the talks. The CVCP has prepared a number of papers which spell out the legal and financial implications of trying to dismiss tenured lecturers.

Several universities are now saying exactly what the UGC's suggested cuts mean. Aberdeen will have to shed nearly 350 staff out of 3,000 and most of these will involve compulsory redundancies. Lecturers were this week meeting to consider industrial action. Mr John Akker, deputy general secretary of the AUT said that a Scottish QC had already been briefed in case the university acted.

At Heriot-Watt a private paper states that "it now seems necessary to plan for reducing staffing levels through compulsory redundancy."

Stirling has also said that 63 academic posts and more than 100 non-academic posts would have to be abolished unless more money was available.

The senate of Brunel this week

passed a motion saying that a working party recommending 165 job losses was "an important possible model for implementing changes, which must be taken into account by council and senate."

It informed council of its "deep disquiet" regarding plans for contraction, accepted the broad distribution of the proposed cuts but called for three moves: obtaining urgent legal advice on the costs of staff displacement, pressing for satisfactory completion of the negotiations between national, governmental and university bodies on compensation and inviting submissions for alternative strategies from members of the university.

The Aberdeen proposals, contained in a memorandum sent by the university's planning committee to all staff, suggests the closure of three departments, logic, developmental biology, and history and the philosophy of science. But the future of social work, Italian and Spanish will also have to be questioned.

The memorandum states: "The scale of the exercise that has been forced upon us is such that the committee can see no way of avoiding hardship in many individual cases."

The posts proposed for abolition are 112 academic, 61 technical, 25 secretarial, 65 clinical medicine and 80 manual.

The university needs to make savings of £4.3m by 1984. By the end of this financial year it expects to have a deficit of £3m. If required savings are not met by August 1982, there would have to be further cuts.

Carlisle's rejection of MPs' request

In one of his last acts as Secretary of State for Education, Mr Mark Carlisle turned down a request from the Select Committee on Education to see two letters from Dr Edward Parkes, chairman of the University Grants Committee, on the effect of budget cuts on the universities. A long letter to the committee, which met this week, explained that advice from the UGC was regarded as "on all fours" with consultation with other Government departments, which is confidential.

Chelsea faces loss of 120 jobs

Chelsea College must lose up to 120 posts to remain solvent, and St Mary's Hospital Medical School, also in London is to send out redundancy notices to some clerical staff at the end of next month, writes Ngaio Cregeur.

Dr Charles Phelps, Chelsea's principal, has written to staff saying that "... from a cash point of view the crisis will arise in February when borrowings will begin to be necessary in order to meet salary bills and other expenses."

By the end of next July, the cumulative deficit will be about £1.8m. One plan being examined is the possibility of raising a loan, using college buildings as collateral and withdrawing to the Manresa Road and Marlborough sites. The 120 posts to go would be from all sections and most would involve compulsory redundancy.

Dr Phelps said: "The small colleges are bleeding at a fairly worrying rate. There is not much time left to pussyfoot any longer."

He expected that the non-academic redundancies would be put in train after Christmas. He hoped that by next September there would be a device by which the college would slim down its staff to survive.

The Association of University Teachers has already written to Dr Phelps to say that immediate legal action will be taken if any staff are made compulsorily redundant.

Mr John Akker, deputy general secretary: "They would be committing hara kari. They would be playing into the hands of those who want to see Chelsea closed. If they took this action they would be drawing attention to themselves and student numbers would fall dramatically. Nor should they pre-empt the work of the subject review committees London University has set up."

At St Mary's medical school one in four of the 150 clerical technical and ancillary staff posts will have to go. All 150 staff were sent letters this week by the dean, Mr R. D. Lowe to ask for voluntary redundancies at first.

The letter says an emergency schools council meeting decided that "... conclusions on individual redundancy would be reached on October 28 and staff would be informed by continued on page 3

Europe's rectors attack British fees policy

from Guy Neave

Britain's policy of charging full-cost fees to overseas students has attracted new international criticism on the eve of an important debate on the subject by Commonwealth prime ministers.

Rectors and vice chancellors of European universities, meeting in Grenoble, decided unanimously that the question of student mobility and access to governments to give more encouragement to students wishing

to study abroad. The conference was critical of the growing tendency, particularly among European governments, towards protectionism against foreign students. Britain was accused of operating a policy of selection by money - not merit, in demanding market prices.

Vice chancellors wanted an increase in the proportion of EEC students studying abroad from the present 0.5 per cent to 3 or 4 per cent. But they were equally concerned about the prospects for students from

Third World countries.

The conference was told that about 60 per cent of Third World students are enrolled in five countries: the United States, France, West Germany, Canada and the United Kingdom. Several of these countries, as well as others, are becoming increasingly anxious to control numbers. West Germany operating a quota system and France introducing a "pre-enrolment year", which had brought about a 5 per cent decline in foreign students in the past year.

Teacher training cuts 'unavoidable'

by Patricia Santinelli

Short of issuing a direct challenge to the Government, the Institute of Education cannot avoid agreeing to a further contraction of the teacher training system, its director, Dr William Taylor, said this week.

He told the British Comparative Education Society's annual conference in Durham: "There was understandable reluctance on the parts of interests represented on ACSET to acquiesce to further cuts, but it is not the committee's task or responsibility to question the Government's current spending proposals."

Moreover, current factors affecting the present and future size of the teacher training system, represented an overwhelming case for making short and long-term reductions in the output of newly qualified teachers if unemployment was not to result.

But it would be impossible to strike a once-and-for-all balance between numbers training via the Postgraduate Certificate of Education and those on BED courses, particularly as the latter remained essential for training in practical subjects.

One factor which might affect decisions on the kind of balance to be struck was the increasingly higher standard of graduates entering PGCE courses. In the institute there were now 34 per cent students entering such courses with first and upper second honours as opposed to 25 per cent a few years ago. This was not matched by an overall similar improvement in the qualifications of BED entrants.

Dr Taylor stressed that cuts proposed in initial training posed a serious threat to in-service teacher training, on which, ten years after the James Report, only 1.5 per cent as opposed to the proposed 5 per cent of available resources was being spent.

"To argue that school-focused, school-based and job-related embedded approaches are sufficient is just an excuse," Dr Taylor said. "It must be supported by theories, ideas, findings and techniques, if it is not to result in an intellectual and professional impoverishment that will be felt for many years. Of course it is here that higher education institutions have a vital role to play."



Great Britain's Davis Cup tennis squad underlined the reputation of the West London Institute of Higher Education in sporting circles by going there for their final preparation for next week's tie in Argentina. Former rugby international Bev Risman (centre), now a senior lecturer at the institute, is pictured with supervising training with (on his left) Mark Cox, Richard Lewis and, Paul Hutchins, and (on his right) Debbie Jevans, Andrew Jarrett, Stewart Bayle and Jeremy Bates.

OU backs down on sacking reading research team

by Charlotte Barry

A full-scale row was averted this week at the Open University. Members of a research team whose grant has been withdrawn by the Department of Education and Science were given their jobs back.

The £109,000 grant awarded to Dr John Chapman, a sub-dean in the OU educational studies faculty, was withdrawn last month after an internal wrangle among team members about the academic value of the research.

The three-year investigation into reading fluency among secondary children is to finish in November, six months before its completion date and after only £60,000 has been spent.

Last month the university issued the three members of the research team with protective notices informing them that they would lose their jobs the following February. Meanwhile Dr Chapman said he intended to continue the project and seek other funds to do so.

This incensed some members of the educational studies faculty who saw this as an issue of academic freedom. They sympathized with two members of the research team who claimed their objections to the research methods and academic prestige underlying the project had been ignored by both Dr Chapman and the faculty dean, Dr John Raynor.

A member of the faculty said: "It made them look as though they were paying the price for exercising a basic academic right."

A motion demanding the reinstatement of the research team was to be debated with the educational studies faculty board which meets today. However this week it was withdrawn after the university bowed to pressure from the Association of University Teachers and agreed to find them alternative employment within the OU.

Another motion demanding clear guidelines for the management of research projects and the appointment of university representatives on external steering groups was to remain on the agenda.

The formation of the group, 400 years after Siberia was conquered and settled by Muscovite forces, shows the growing interest in a territory neglected by western scholars. In 1581 the Cossack adventurer Ermak led the first Russian advance across the Urals.

The two-day meeting at Lancaster was hosted by the Russian and Soviet Studies department at Lancaster University. Lecturer Mr Alan Wood said: "Siberia is a region of enormous size, historical interest and economic importance. It has a vital role to play in the industrial development of the USSR. Its 4,000 mile border with China and Mongolia, its rich mineral deposits and huge oil and natural gas resources make it a crucial, though little appreciated, factor in international and strategic terms."

He said he hoped the meeting would help to counter the popular image of a vast frozen wasteland inhabited by political prisoners and exiles.

The research interests and expertise of the group cover history, economics, ethnography, folk-lore, Siberian languages and literature, the economy and the oil and gas industry.

About 30 names are on the new groups mailing list so far. Further symposia are to be arranged and a volume of essays on Siberia, past and present and future may be published.

The European Parliament is to debate a motion urging support for part-time students and the development of continuing education. It follows a three-day lobby of Euro MPs in Strasbourg by students and campus unions from Birkbeck College, London and the Open University.

The motion urges the European Commission to investigate the extent of continuing education provision, encourage and finance development in neglected areas, and persuade member governments to provide adequate grants for part-time students.

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Fewer dental places needed, says report

by Robin McKie
Science Correspondent

Immediate action should be taken to cut undergraduate intakes at dental schools by 10 per cent, a report by the Dental Strategy Review Group urged this week.

The group, which is chaired by Mr George Gibb, chief dental officer at the Department of Health and Social Security, proposes a package to improve preventive dental care, including campaigns to cut sweet eating and to introduce national water fluoridation, which would reduce the need for treatment. This could result in more preventive auxiliary staff.

"We recommend a reduction of at least 10 per cent in dental undergraduate intake which will result in a reduction of about 1,000 in the projected number of dentists over a 15 year period", the report states.

The group argues that this cut should be concentrated in those regions already well-supplied with dentists.

In proposing its package, the group points out that prevention requires a long-term commitment on the part of practitioners "Inculcating this attitude will, in many instances, require a fundamental change in the pattern of undergraduate education. Greater emphasis will need to be given to the behavioural sciences, patient motivation and prevention as a total concept."

There should be a move to end the present variations in dental degree course lengths which should all be of five years' duration. This could be achieved by establishing a five year course or a four-year one enhanced by a one-year period of pre-registration training.

The report recommends that newly qualified dentists should have two years' practical experience before being eligible to become a principal in the General Dental Services and that financial disincentives to general dental practitioners attending postgraduate courses be removed.

In the long term, the administration of general anaesthesia would only be undertaken by postgraduates, and immediate action should be taken to improve course places.

More money is needed but the group says that reducing undergraduate intakes and closing the New Cross School for Dental Therapists would release funds.

"It is imperative therefore that despite the economic crisis and the considerable pressure on universities and educational establishments to contain expenditure, that dental education must not suffer a net loss", says the report.

The University College at Buckingham has made a formal application for a royal charter under which it would become known as the University of Buckingham.

But its application which was officially published on August 4 has already led to opposition from the Association of University Teachers, the Council for National Academic Awards and the Committee of Vice-Chancellors and Principals.

All three asked for an extension of time to lodge their objections to the Privy Council beyond the deadline of September 14. Since this has been granted, the application is now open to further comments or objections from other organizations.

The AUT has already written to the Privy Council to say that it would be wise to examine the application very seriously since there are important criteria such as the financial and academic standing.

The University College says a royal charter will make no obvious practical difference to its academic standing since its degrees are now widely recognized. It would, however, bring it in line constitutionally with other institutions and it sees no reason why its application should fail.

Whether the college succeeds in its application may not be known for a while. The applications, comments and objections have yet to be referred to a committee of the Privy Council. Once it has been considered, it is then sent back to the full Privy Council for approval or rejection.

The Social Science Research Council is planning to host further conferences for academics and civil servants to discuss current policy issues following a successful first initiative this week on the summer riots.

Senior civil servants from four Government departments and academics specially invited by the SSRC heard papers on four key issues - policing, inner-city policy, education and discrimination.

The SSRC is now also considering a much larger conference next spring styled a debate between a reactive style (waiting to be called in) and a proactive style (stop and search). The SSRC expressed itself well pleased with the conference. It marks another step forward in the council's aim to create a higher public profile and make its work more policy-orientated.

One of the more interesting contributions to this week's conference came when civil servants including deputy-secretaries were told that as yet unpublished research shows black workers who do overtime end up earning much less than white workers.

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An original American wallpaper poster found in the archives of the Whitworth Art Gallery of Manchester University. The gallery is holding an exhibition "Hang it All" until September 26 displaying its most successful events, 40 watercolours and drawings by the Pre-Raphaelites and their associates shown for the first time there.

Chelsea must lose 120 jobs

continued from front page

October 21." The proposals would be considered by "six wise men" made up of professors and heads of department. Between now and late October the school will be consulting with trade unions.

In an earlier memorandum to heads of department Mr Lowe said the school should not try to make savings just by reducing non-tenured staff. "We should... reduce staffing among both academic (and academic-related) and non-academic staff and these reductions should be as rapid as possible."

"Compulsory redundancies among tenured staff will only be possible if there is a national scheme for funding such redundancies. It may nevertheless be appropriate for us to prepare the ground and decide which staff are candidates for such a scheme, and try to persuade them to accept it terms."

Meanwhile the governing body of Westfield College this week agreed to consult staff on two schemes for making cuts: one, every member of college to take two weeks unpaid leave before July, 1982, during which they could earn money in other ways using college equipment, and two, the deferment of any current pay awards until after August 1982.

In a paper presented to the meeting, Dr Bryan Thwaites, the principal said: "Our college, in company, I suspect, with all other London colleges and most universities - faces the threat of extinction."

The Joint University Council for Social and Public Administration has also sent a statement to the UGC deploring the speed and extent of cuts demanded in their subject area. The council regrets cuts in a subject that helps students understand social problems and supports research to aid policy-makers.

Major decisions about closures and mergers of departments and institutions must be based on the views of the professional and scholarly associations, not just political groups, Dr William Taylor, director of the Institute of Education said this week.

The UGC has told East Anglia, Hull, Exeter, Kent, Lancaster, Leeds, and Warwick universities to consider discontinuing drama, and London to rationalize its courses. At Lancaster and Leeds postgraduate teaching should be severely cut back, and the remaining 12 drama departments are also expected to have to reduce their intake.

Professor Michael Anderson, from Bangor University, chairman of SCUDD said: "Of course, we accept drama must take its share of the overall cuts. But we have been singled out for exceptionally harsh treatment."

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OU's new degree popular

by Charlotte Barry

The Open University has been flooded with applicants for its first taught higher degree, a B Phil in advanced educational and social research methods.

In the two months since the two year part time course was advertised the OU has received nearly 1,000 inquiries followed by 259 firm applications from high-calibre candidates. As a result it is to increase the numbers from 30 to 50 on the pilot course starting next February.

The students will pay a fee of £480 in eight instalments over two years and will be expected to set aside between 10 and 15 hours a week for study.

The fee compares favourably with the average £330 a year charged next year to part-time postgraduates in traditional universities following changes in the University Grants Committee regulations.

Mr Martin Sullivan, the OU's higher degrees officer said, "We didn't really know what sort of response there would be, but we didn't think it would be like this."

"We thought they might be put off because most of our students have to pay their own fees, but with secondments being rare these days it is unlikely they would get time off to do a full-time course elsewhere."

The majority of applicants to the course run jointly by the social science and educational studies faculties were teachers and polytechnic or college lecturers who completed their first degree some time ago. About a quarter were OU graduates.

Mr Sullivan added, "They were very highly qualified with first class degrees or 2:1s plus a master's degree or an advanced diploma in education and maybe something else as well. A lot had two or three post A level qualifications."

The first year of the course consists of projects and course material based on the OU's existing third level research methods course and the social sciences, with two exams at the end.

Schools' rocket launch delayed

The launch of Britain's first educational satellite, UOSAT, built by Surrey University scientists, has been delayed until Saturday, October 3. Originally scheduled for launch last Sunday, the blast off by American Delta rocket has been put back to reprogramme flight manoeuvres.

The satellite, which will study how the ionosphere affects radio transmissions, will include special features, such as a voice synthesiser, to encourage its use by schools and individuals with no previous experience of satellite work.

TESS.

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NUS asks for Soviet probe

The official Student Council of the Soviet Union has been asked by the National Union of Students to investigate cases of four student dissidents who have been sentenced to work in labour camps.

The request was made by an NUS delegation which has just returned from a visit to Moscow to promote cooperation between the largest student organizations in east and west Europe.

Three of the Russian students were members of the so-called Leningrad Left which was broken up by the authorities in 1978. A fourth student has relatives who belong to the Helsinki Human Rights monitoring group in Ukraine.

An NUS spokesman said the visit had restored some of the ground lost between the two bodies in recent years.

Mr Julian Eccles of NUS said: "The meeting was important in improving relations between the two bodies. We asked them to investigate the cases of these students because that is a vital component of our international work, and they said they would."

A joint communiqué said the meeting, the first for four years, had done much to build close and friendly relations.

A group of British students who returned from the USSR last week claim they were harassed by KGB agents who followed and photographed them and searched their hotel rooms.

The 23 students were on the final cultural exchange organized by the NUS and Sputnik, the Soviet youth bureau.

Police tactics conference cancelled

by Paul Flather

A conference on policing in Britain scheduled to take place this weekend at University College, Cardiff was cancelled when half the speakers withdrew following an intervention of the university's faculty of law.

Members of the faculty were concerned that the tone of the conference was too critical of police tactics and asked the organisers to invite police representatives to give the conference more balance.

The organisers sent out more than 70 press notices to a variety of newspapers and magazines including the *Police Review* and found that at least 10 police officers would attend.

But some of the speakers also wanted to withdraw from the conference to revise their papers in the light of the summer riots. The presence of police officers heralding an acrimonious public debate encouraged others to withdraw.

The four who decided to withdraw were Professor Stuart Hall, professor of sociology at the Open University, writer on policing, Mr A. Sivanandan, editor of *Race and Class*, and Mr Paddy Hilliard, from the department of social administration at Brunel University.

Mr Bunyan said: "This conference was planned last autumn. But as an observer of the police for a decade I

felt there was a qualitative change in policing tactics used here during the summer."

"The best way to express this was in a considered and reflective way in a written form, and not in a public dialogue which could have turned into an acrimonious debate."

Mr Sivanandan said he told the organisers he could give a paper early on after the riots. "The presence of the police would have made a difference to me. But I wanted to produce a considered written piece."

Some of the papers to be delivered at the conference are likely to be published as a collection in a book next year.

Support for campus strikes

University white collar workers have reiterated their support for industrial action against redundancies. But their leaders succeeded in saving strike action as a weapon of the last resort when the crunch comes - as they expect - next year.

The National and Local Government Association universities group last week took advantage of a union rule change to authorize branches to set up reserve funds to fight redundancies. It also expressed full support for the joint day of action planned by all the campus unions for November 18.

The new energy project coordinator for the Science and Engineering Research Council is to be Martin Wilson who will succeed the late Dr Jack Butterworth. He will be based at the council's Rutherford and Appleton laboratories and will be responsible for stimulating energy research programmes at universities and polytechnics, while also acting as a link with Government and industry in the identification of new energy areas which could benefit from SERC support.

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The North Atlantic Treaty Organisation has

Project searches for alternative home

by Charlotte Barry

The research project at the centre of a bitter dispute at North East London Polytechnic is to remain there for another year.

At the same time the Centre for Alternative Industrial and Technological Systems (CAITS) is to continue its search for premises at another London polytechnic.

Last week a sub-committee of the governing body agreed to recommend to NELS governors that CAITS staff contracts be renewed up to next August. This will coincide

with the expiry of NELS's contract with the centre, which was set up by the Lucas Aerospace shop stewards committee with mainly outside funds. Only the salary of CAITS's director, Mr Mike George, is paid by the polytechnic.

The policy and resources sub-committee decision follows a row which has been brewing in the polytechnic since March. Then the governors of NELS agreed to carry on housing the centre but cease paying the director's salary.

In early July the polytechnic told

CAITS that the four remaining staff would not be re-appointed after all and NELS would refuse to accept further funding for the centre.

This led to complaints about lack of consultation from the Lucas Aerospace shop stewards and the three main funding bodies, War on Want, the Rowntree Trust and the Gubbenkian Foundation.

The latest move was welcomed

with caution by Mr Tim Butler, chairman of NELS's co-ordinating committee of the National Association of Teachers in Further and

Higher Education.

He said: "CAITS is one of the few real innovations that the polytechnic has been associated with and it is internationally renowned. It seems a shame that the polytechnic is now going to lose this unit when its contract runs out."

Mr David Crume, assistant director at North London Polytechnic confirmed that it had been approached by CAITS about housing the project but nothing had been agreed.

A matter of medical choice

Robin McKie
Science Correspondent

Strict control of the numbers of students entering medical schools is essential to improve the knowledge and competence of graduates. Europe's medical schools, during their annual meeting in Madrid last week, this selection should be based on the intellectual and motivational qualities of entrants, and be free of unacceptable discrimination, they decided.

The conclusions were later backed by the Association of Medical Education in Europe at its annual meeting held shortly after the Madrid conference. Yet its support came despite the practice of contrary procedures in several countries, such as Belgium and Italy, where all eligible students are free to enrol in medical schools.

Often this leads to numbers of classes swelling to several hundred students, which many delegates argued made the education of students almost impossible. Later numbers are cut down sharply, which Professor Henry Walton, president of AMEE, claimed was unfair.

"Medicine has no right to feed its cream off the best talent and then waste it," he said.

However early, strict selection does not mean that only intellectual attributes were used. In Holland, a battery is used and similarly in Germany a complex six-part procedure has recently been introduced which includes the practice of selection by chance.

Instead, in his speech to the conference, Professor A. Antonov, of Ben Gurion University, Israel, urged that when implementing selection procedures, greater use should be made of close interviews of students - a practice carried out only a few British medical schools such as the London Hospital medical college. "There are some things which you want in a student which can only be got through an interview," he said.

In particular, the ideal candidate could be found showing signs of empathy, flexibility of attitude and an inclination to take up responsibility. Interviewers, who should come from the school's own administration committee, would still have to be aware of their own prejudices and also be careful to avoid "the smooth talkers", Professor Antonov said. Similarly there was no point in interviewing only the best students - say 130 candidates for 100 places - but staff should talk to a pool of four times class sizes and take each interview for about 40 minutes and not just have a five-minute chat.

And another Israeli delegate, Professor Moshe Prywes, also of Ben Gurion University, stressed that students had been selected in a way which was as close as possible to the health care systems of that country. Medical education was the first line in improving the quality of national health, he believed.

"Medical education must be responsive to the health needs of a society and must have a mission to stimulate and change the health care system in a country," Professor Prywes said.

He believed that clinical medicine should be taught from the first day that a student entered a medical school. For instance a great deal of pre-clinical teaching could be done in a clinical setting, such as understanding human growth and development by observing mothers and newborn children, instead of waiting several years before beginning clinical teaching, as is done in many countries.

Often a medical student comes to school to help people with empathy and is promptly put in a science laboratory or given a cadaver to put up for several years to see a patient and that is usually a look down on patients, and not see them as people but as cases.

Engineering at a turning point

Robin McKie
Science Correspondent

Engineering education in Britain is now at a turning point, and could develop new important links with practising professionals, similar to those which operate at medical schools, delegates at a Southampton University conference heard last week.

Professor Robert Smith, dean of the university's engineering faculty, told the Southern Science and Technology Forum conference. Surviving the 80s, that as new four-year engineering courses were being introduced at universities, a much closer involvement with industry over their content and form was being sought and obtained.

"I begin to see the evolution of engineering schools with the same kind of close professional involvement one finds in medical schools", he said.

A number of barriers would have to be overcome to achieve that goal. These included:

• Universities' preoccupation with publication as the only measure of academic worth

• Industry's obsession with commercial confidentiality

"If we don't close the gap between higher education and industry I have very real fears that engineering teachers will lose the touchstone of current industrial practice, as well as industry missing the stimulus of academic research which may point the way to products and services for the decades ahead."

Professor Smith also attacked the

Government which was supposed to be committed to revitalizing Britain's industrial strength. "This surely implies certain investment decisions of which one of the most important concerns is the supply of technical manpower."

"So why are they dismantling the industrial training system and cutting the universities and polytechnics so hard that there are real doubts as to whether many institutions can survive?"

When protection of subjects central to the economy had been expected, engineering found it would have to bear basically the same cuts as other subjects. "Blatantly an opportunity has been missed."

Professor Smith also attacked the Department of Education and Science for failing to commit itself to the full growth of four-year, enhanced engineering courses. "Fortunately, there is a momentum to reform of engineering education which no colourless statement from the DES will stop", he added.

And in a speech presented this week at the annual conference of the European Society for Engineering Education at Brighton Polytechnic, Professor Alec Chisholm, of Salford University's mechanical engineering department, said there had been little tradition in this country for Government to seek or be supplied with advice on the industrial value of university engineering education. In the end, the ability of the education sector to meet national needs would depend on the determination of engineering teachers to collaborate with industry.

London names committees' chairmen

London University has named the chairmen who will head four subject review committees to guide it in implementing the University Grants Committee cuts.

The committees have been set up to advise on "the resource deployment most likely to ensure the maintenance of high academic achievement" in their respective areas.

As reported last month, the idea came from the university's academic council, and was supported by Professor Randolph Quirk, London's new vice-chancellor.

The committees will undermine the continuing work of the Swinerton-Dyer committee, which still has a final report to make, but has been overtaken by events, and is covering too wide a field to be effective.

The four chairmen are: Sir Sam Edwards, FRS, the John Humphrey Plummer professor of physics, University of Cambridge (physical science committee); Sir James Beament, FRS, Draper's professor of agricultural and head of the department of bridge (biological sciences); Professor J. Cruickshank, professor of French, University of Sussex (languages); and Sir Alec Cairncross, FBA, chancellor, University of Glasgow, and supernumerary fellow, St Antony's College, Oxford.

English student travel takeover by Irish

Fears about the future of a leading English student travel company with an annual turnover of more than £1m, which is about to be taken over by a rival Irish company, were dispelled this week.

The takeover of London Student Travel, with four offices in the capital by the Union of Students in Ireland Travel Ltd (USIT) will come before a shareholders' meeting on October 12 for ratification.

USIT plans to take control of 45 per cent of the shares, which are being released by Exchange Travel Ltd, a large general travel company. The remaining shares are held by college and university students' unions.

Mr Gordon Collesary, managing director of USIT, said the takeover was perfectly logical and would allow his company to put more money and managerial energy into expanding the work of London Student Travel.

"The whole student travel market is changing. With Freddie Laker carrying more and more students we need to provide a whole range of new trips."

"We are specialists in the market and will be able to put in the extra expertise that probably Exchange Travel were not interested in giving. If something is not done now the company may not be able to survive."

OU opens its doors to researchers

by Charlotte Barry

Research at the Open University is beginning to play an important role in academic life after years of being overshadowed by the need to develop innovative teaching methods.

During the university's first decade academic staff concentrated so hard on building up the programme of undergraduate courses that research has tended to play second fiddle. But an open day held on the Milton Keynes campus last week showed that the balance is being redressed.

The events were organized by the university's research committee, which has had the unenviable job of building up facilities on a new and relatively isolated campus.

Its chairman, biologist Professor Steven Rose who founded the OU's brain research group, is well aware of the problems. At the beginning, academics were appointed specifically for their innovative approach to teaching and research work was sacrificed or incorporated into the production of courses.

Professor Rose said: "It's not so much a question of time. The act of teaching at the OU is so creative and takes up so much time and energy that creative input goes into that rather than research as at other universities."

Other problems have been a campus that operates very much on office hours; a library that has no late opening hours and until recently the lack of residential accommodation on campus for visiting researchers.

The role of the committee has been to provide pump-priming funds for projects. External grants from research councils, government departments and foundations rose from £400,000 in 1979 to £600,000 last year.

Although the university has no well-established links with industry to enable fund-raising, its position on the edge of a new town has enabled research to reflect this in the work of the energy research group, the co-operatives research unit, the new towns study unit and the alternative technology group.

The current register of research lists a total of 330 projects being carried out by groups and individuals. There are now 25 groups which include three with the status of sub-units within their faculties - the brain research, energy research and petrogenesis research groups.

All these research groups build on the collaborative method pioneered by the OU course teams, and have a multi-disciplinary approach and are intended to foster a self-critical environment.

One example is the brain research group, which attracts visiting neuroscientists from all over the world. It involves a multi-disciplinary group of biochemists, physiologists, anatomists and ethnologists looking at the interactions between the organism and its environment.

The energy research group has close links with the Milton Keynes Development Corporation which involve detailed monitoring of the energy consumption and thermal performance of low-energy houses in the new town.

Recently the group has become more involved in "hardware" projects including the development of a gas-engine-driven heat pump in conjunction with Lucas Aerospace; and the analysis of the potential of thermochemical energy storage systems in collaboration with the Rutherford Laboratories.



Godfrey Boyle, chairman of the Open University's alternative technology group, demonstrates its electrically-driven tricycle.

The tricycle is being tested in an attempt to match the advantages of the bicycle with the need for a vehicle that can carry children and small loads over reasonable distances. The third prototype, (pictured above), is fitted with a commercially-available 'Pedal Power' motor, made in the United States, which gives friction drive to the front wheel.

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V-c accuses UGC of favouritism

Some universities are receiving around £800 more per student as a result of the University Grants Committee allocations, according to Dr Harry Kay, Exeter's vice-chancellor.

In a special newsletter to staff, in which he criticizes the UGC policy and Government cuts strategy, he says the policy changes were made after minimum discussion at national level, "with the result that the country as a whole is unaware of the nature of these catastrophic reverses."

After taking into account the different costs of teaching arts, science and medical students, the range in grant received by different universities varies by nearly 30 per cent, excluding London, (which would extend the range further), he estimates.

The £800 variation "... is a staggering difference on an average grant per student of around £2,500. It implies that for those universities of 5,000 students the total grant may vary by as much as £3m to £4m, he says.

"The only possible explanation for a financial discrepancy of this size would seem to lie in a deliberate policy to fund some universities at a lower rate than others."

The UGC told the Commons Education Select Committee in July that no value judgments had been made about institutions in applying the cuts.

Dr Kay also reveals two UGC blunders. First it has apologized for omitting to say that Exeter's students lost for 1980/81 is 290, not 90. Secondly, the UGC has said it over-paid Exeter for the period April to July 1981 and is to dock future payments to recover £320,000.

Dr Kay says it is essential not to treat the July letters of guidance as minor adjustments to national student numbers, with a few universities selected for major cuts. "For 1981/82 alone the letters inflict the largest reductions in the history of British universities... the universities will be radically changed, and changed for the worse, by them... will not witness a catastrophic reduction in their staff and support resources."



Eight of the group of 10 Chelsea College students who have become the first London University graduates in nursing studies celebrate with Dr David Ingram, the college principal. The students worked at St George's Hospital, Tooting, while taking the course in order to obtain a simultaneous BSc and SRN.

Students persuaded to switch from Russian

Two degree courses at Lancaster University have begun to be phased out even though more than 30 students had been offered places. Successful applicants for places in European studies and Russian have been persuaded to take alternative courses at Lancaster or transfer to other universities.

Although the decision not to accept new students on to the Part One Russian and Soviet Studies course and to transfer European Studies to Kent University was taken in July, the vice-chancellor, Professor Philip Reynolds gave a commitment that offers would be honoured.

All applicants with conditional offers for European studies were advised that they had two options - to change course, or go elsewhere. But the letter did not mention the vice-chancellor's statement to a meeting of senate ten days earlier. He had said: "If an undergraduate stood on his rights to be admitted to a course in European studies, one would be provided even if the two members of staff transferred to

Polys ahead on development

Polytechnics have nearly double the number of people working in established staff development units than universities, according to a survey by the University of Surrey.

The survey, conducted by Pat Cryer of the Institute of Educational Technology during 1979, is based on a 79 per cent response from all universities and polytechnics. It shows that 64 per cent of the staff developers in polytechnics were attached to units specially set up to support teaching and learning. This was true for only 37 per cent of the university staff developers.

Moreover nearly twice as many of the staff involved in polytechnics were working full-time on staff development compared to universities - 52 per cent as opposed to 29 per cent. Universities had 63 per cent of their staff working part-time and 8 per cent as volunteers. In polytechnics no one was an unpaid volunteer.

However university academics with a commitment to their own subject departments are far more heavily involved in staff development than their counterparts in polytechnics - 28 per cent as compared to two per cent.

A picture also emerges of university staff developers so pressed that their involvement is limited to putting on courses of various kinds, usually a few days' induction courses. For example only 43 per cent of the respondents indicated that they offered counselling/consultancy services, as against 68 per cent of the polytechnics.

The survey concludes that the lead which polytechnics have in this field may decrease as a result of new validating procedures.

Their establishment, it points out, was a direct result of external pressure imposed on the polytechnics both at their inception and during quinquennial reviews by the Council for National Academic Awards. Such an impetus did not exist in universities where there was no in-built mechanism for enforcement and where moreover there is no tangible reward for those who favour staff development.

Law leaves librarians in a dilemma

by Paul Flather

The Government is deliberately fudging the reform of the law on copyright leaving librarians in the awkward position of sometimes having to break the law or risk losing their jobs, a conference of librarians was told this week.

The conference, run by the Librarians Association and the Association of Special Libraries and Information Bureaux in the Geological Society rooms in London heard how rapid technological advances in video and copying machines had thrown the law into disarray.

Mr Clement Freud MP, Liberal spokesman on the arts and broadcasting, told delegates from all over the country that the Green Paper issued in July promised little. "It seems to me that as librarians you must be told when you are breaking

the law and when you are not," he said.

"This paper is the work of a government fudging the issue. After all it took four years to get it out and it will be another few years before there is a White Paper, when the Government knows it will not be in power," he said.

The only thing that the Government has said is that punishment for piracy of material will increase. Mr Freud urged the associations to send a telegram to the Department of Trade asking how long they have left for submissions.

The Green Paper was produced four years after the Whitford Committee recommended a system of blanket licences to replace the present series of exceptions allowed under the 1956 Copyright Act.

Under section 41, teachers in

schools are allowed to copy material but only for use in schools. Librarians are not covered for film or video and, the exemptions do not extend to colleges, universities, and other educational institutions.

Mr Geoffrey Crabb, rights development officer of the Council for Educational Technology, an expert on copyright, said all librarians had heard of an institution or the chief education officer about what they should copy.

"You must get an instruction one way or another. Then you are covered. If you are asked at 4 pm say to record a Horizon programme to show the next day there is no way you will have time to get permission from the BBC."

The CET wants a clause to cover all copying for education purposes.

Rush to exploit fees loophole

from Lionel Cohen

AMSTERDAM Nineteen-eighty-one may prove a record year for student enrolments at Dutch universities. The rush to register before new "two-phase" regulations take effect to drastically shorten course programmes and cut post-graduate places, may have been further boosted by Holland's spiralling unemployment.

At the same time, however, there are signs that both academic and economic pressures are being placed on older students to either complete their studies or quit university. Apart from an increasing unwillingness to continue renewing annual grants more or less automatically, there has also been a blanket withdrawal of the exemption from tuition fees which, until recently, all students enjoyed after completing four years of full-time study in any Dutch university. On top of this, the scale of tuition fees has jumped a staggering 30 per cent for all students and many are having difficulty in finding the cash.

However, a loophole has been discovered by the students by which, for around £30 per year, they can preserve their university registration as well as their right to sit all examinations. The only snag - and some students might say that it is not too great - is that this *extramurus* category of registration excludes the right to attend lectures or course instruction or to make use of any teaching facilities.

Up to now, only nominal use has been made of this limited category of registration by a handful of visiting or part-time students. But now regular students - particularly older students and those without grants - are suddenly flocking in. The demand

for application forms has been phenomenal. Nijmegen University, for example, had to rush through an emergency extra printing of these forms when its stock of some 1500 - about five times the normal annual requirement - ran out by mid-August.

Boards of administration are becoming alarmed at the financial consequences of this development, the effect of which is gaining momentum from a parallel campaign against all tuition-fee increases by a combination of all the leading student organizations. The problem is not only the immediate loss of tuition fees which this involves, but also the danger that drastic staff reductions may have to follow if this trend continues, since the number of teaching posts is directly related to the number of full-time fee-paying students enrolled.

Various attempts are being made to discourage students from registering as *extramurus*. At the Free University of Amsterdam, for example, a printed warning is issued with each application form drawing attention to the £100 fine which students risk if caught attending courses for which they have not paid the tuition fee. They are also warned that facilities such as the economical student restaurants, may be barred and admission strictly controlled to keep out those who have not paid in full.

Such warnings may well deter a few, but the more weighty consideration is likely to be given by students to the risk that any grant entitlement may be lost if they do not register for, and participate in, a full programme of taught courses. In addition, full registration automatically enables students in subsequent years to take part in various forms of paid in-service training.

Irish grow younger

from John Walshe

DUBLIN The republic's population is growing faster than demographers had predicted - posing even greater challenges in the provision of higher education. From April 1971 to April 1979, the total population increased by 390,000 or 13.1 per cent to 3,368,200.

But the latest batch of census statistics - giving ages and marital status - details the increasing youthfulness of the population.

The largest increase occurred in the 15 to 29 age group where the total population grew by more than 25 per cent. There was an increase of similar proportions (23 per cent) in the 30 to 44 year group, while the youngest and oldest age categories - younger than 14 and older than 64 - the increase in population were of the order of 10 per cent.

Despite the increasing availability and use of contraceptives in the largely Catholic republic, the population trends are likely to continue upwards in the foreseeable future. This is partly due to the decline in emigration and also to the return of Irish people from abroad.

From 1971 to 1979, a figure of 109,000 is given for the overall level of new immigration, that is the excess of inward migration over outward migration. Many of the inward migrants consisted of family groups.

With exactly half the population under 26 years of age, the latest returns sharpen the demand for more higher education in a country where there are already too many applicants for available places.

The position is particularly acute in the greater Dublin area where a third of the population is living. Negotiations are advanced for sites for two technological colleges.

The minister has also indicated to university authorities that they should be able to accommodate more students within existing buildings. He is anxious to provide more places.

Protest over rector

from Jean Rowton

GABORONE Five hundred university students marched through the centre of Gaborone this month to protest about the appointment of their new rector, Professor John Derlat Turner. They arrived at the office of the President of Botswana to complain, not about the man himself, but about the appointment of a foreigner to run their university.

Professor Turner is in fact not new to Botswana. For six years from 1964 he was professor of education and vice-chancellor at what was then the University of Botswana, Lesotho and Swaziland. He then returned to England to take the chair in education at Manchester University.

His appointment, made by the President Dr Quett Masire, himself, was announced in June and described as "a change which should upgrade the development of the University College which will soon become the University of Botswana."

Since Lesotho has broken away from the university the standards have been fluctuating. It was to halt this deterioration that Professor Turner's three-year appointment was made.

However, the 1,000 students have labelled the move as "a process of decolonization" and claim proper consultation was not made. They say the college council had recommended the acting rector, Professor Thomas Tlou, be confirmed in his appointment.

In a memorandum submitted to the Office of the President they state: "The appointment of an expert over the head of a person from Botswana has detrimental social repercussions. It is an admission of degradation. It means the people of Botswana are incapable of shouldering the responsibilities of running a university. We demand that the appointment of Professor Turner be withdrawn unconditionally. We firmly believe we are saying all this in the rightful defence of our fatherland."

Open University planned for Finland

from Donald Fields

HELSINKI Finland will establish a permanent open university if the unanimous recommendations of a government committee report are implemented. The money proposed for this purpose - about £300,000 in 1982 rising to £720,000 in 1986 - is negligible, however, and the education minister, Mr Pär Stenbäck called the report "only a short step towards equality in education."

Finland has one of the highest proportions of graduates to the total population in Europe (15 per cent in the 25-29 age bracket), and the third for part-time study has long been quenched by an admirable network of folk colleges, workers' institutes, extra-curricular university courses, and summer universities.

Pilot open universities, now attended by about 4,000 people, have been functioning for several years and will continue to draw more government funds than the proposed permanent model. But they do not give degrees - only testimonials with marks.

That many adult non-graduates aspire for a degree is acknowledged by the committee's call for a developed, nationwide system of university-level teaching that would be shaped to the scholastic needs of the working population. The attractions of mobilizing the state-run broadcast system and local teachers are also evident in a country with widely scattered communities.

The committee recommends 25 as the minimum enrolment age for the fully-fledged open university, but makes no estimate of the number of possible students. It says that 20-30 planners and administrators, as well as a number of part-time teachers, will be required at the launch. It envisages courses in three or four disciplines, with the emphasis on follow-up teaching for entrants who already have diplomas in vocational and general studies.

While the committee endorses the principle of graduation through the open university, it does not expect its brainchild to have the resources to run degree courses in the next few years. Therefore, it suggests that those seeking a degree should do part of their studies at the open university for subsequent admission to conventional universities.

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Enrolment controls worry academics

from Craig Charney

JOHANNESBURG

The government has suggested it may impose enrolment controls on universities and technical colleges, to ensure that they concentrate on producing the qualified personnel needed by the economy.

These hints were contained in an official White Paper reacting to a recent National Manpower Commission report. The commission report also argued that economic growth would require the expansion of opportunities for blacks to study at white universities and technical institutions.

As the implications of the documents sink in, academics are worried by the indications that the government is willing to go ahead with enrolment controls, and that it remains unwilling to throw open university doors to all races.

The Manpower Commission report recommends: "Further attention should be given to the revision of the subsidy formula with a view to the production of large numbers of graduates in spheres which are of direct importance to the country's future growth."

In response, the official White Paper says: "The government holds the view that the tenability of uncontrolled enrolment for courses which are not always of direct importance to the future of socio-economic development and growth of the country require serious investigation."

"The government is aware that a revision of the subsidy formula for application in 1983 is in progress and is convinced that its relevant organs will give close attention to the above guidelines."

Professor R. W. Charlton, deputy vice-chancellor of Johannesburg's

Witwatersrand University, expressed his concern at the recommendation. He said: "It is to be hoped that the wisdom of limiting admission for the reasons given will be very carefully examined before it is imposed."

Critics of the government suggest that the measure is just one more line with the government's "strategy", which aims at mobilizing all the resources and institutions of the country in a bid to counter black revolutionary insurgency.

The Manpower Commission report emphasizes the degree to which skills shortage has become a bottle-neck for economic growth.

It notes that only 20 per cent of the workforce consists of white males, but that these occupy half the high-level positions.

Since their numbers cannot be expected to increase much in the next few decades, the report points to a "seriously serious need for tertiary education and training for non-whites."

It called for the streamlining of the cumbersome permit procedures governing the admission of black students to white universities.

However, while government has indicated it will consider revising the permit system, both the White Paper and subsequent statements by the minister of education have underlined its determination not to allow blacks free entry to white universities.

Instead, it is pushing ahead with its plans to establish seven "township colleges" for urban blacks. The principle of the Bill which will establish them, the *Vista* University Bill, was approved by Parliament at second reading despite protests by English-speaking academics and universities.

According to Chairman Mao

Chinese students must continue to be taught in accordance with principles for education put forward by Chairman Mao, the Education Minister, Jiang Nanxing has said.

He told a national conference on political and ideological education that the main trends of thought among Chinese students are good, but there are tendencies of bourgeois liberalization which merit special attention. They should be educated to be "red and expert."

Some of Mao's principles are: socialist education should bring forth

a whole generation developed ideologically, morally and physically; students educated under socialism should have socialist consciousness and a certain level of culture, ideological and political training must be combined with technical education.

According to Mao's principles, intellectuals must be integrated with the workers and peasants. By studying Marxism-Leninism and learning from society and from practice they should develop a proletarian world outlook.

Minorities demand recognition

Students from three of Poland's minority races - Byelorussians, Ukrainians and Lithuanians - have set up a special coordinating commission to press for legal recognition of their new student associations. This follows a second refusal by the Minister of Science, Higher Education and Technology, to grant them recognition. Attempts by the students to publicize their case in *Trybuna*, the weekly newspaper of Solidarity were blocked by the censorship.

The cultural identity of Poland's ethnic minorities has been under considerable pressure during the last decade. In 1976, the Plenum of the Central Committee of the ruling Polish United Workers' Party adopted a special resolution that Poland should be developed as an "ethnically homogeneous state."

Already, however, the future of the minorities was under threat from the educational reforms of 1971, which modified the regulations giving freedom of choice in the study of the mother-tongue. The reform of the school structure wiped out almost all available courses in minority languages.

At the same time, a number of cultural institutions were closed down. In 1971, the Byelorussian lost their 'Lavoncha' stage group (the main show-case for their song, dance and drama), and a few years later the Byelorussian ethnic museum in Bialowieza was closed and its exhibits transferred to a general museum in Ciechanow.

The climate of "renewal" in Poland has led to a campaign for the redress of such grievances. Among the students, the first to demand their own association were the Lithuanians, who established their

Union of Lithuanian Students on February 20 - immediately after the signing of the Lodz Accords which legalized the new Polish Independent Students' Association (NZS).

This was followed on May 1, by the Association of Ukrainian Students, and on May 30 by the Byelorussian Association of Students. The formation of these groups was warmly welcomed by the NZS, which followed the lead of Solidarity in opposing the concept of an "ethnically homogeneous" Poland.

From the official side, there seems to be no objection to an ethnic student association as such. While the Byelorussians, Lithuanians and Ukrainians were engaged in negotiations with successive Ministers of Science, Higher Education and Technology, Poland's tiny community of African Students got its union registered without difficulty.

Police called to Tel-Aviv union break-in

from Benny Morris

JERUSALEM The conflict between Tel-Aviv University and its student union, simmering since the beginning of 1981, reached a high point this month when students broke into a campus building and vandalized equipment and furniture, and police were called in to eject them.

Some 50 students, led by National Union of Students chairman Tzahi Hanegbi, broke into the campus and into its students house after the university authorities cut off electricity to the building and changed the locks on the doors so that union officials could not gain entry.

The university withdrew recognition after Prof Shlomo Simonson, the university over-seer of the results, declared part of the results invalid due to fraud and demanded a new vote. The incumbent right-wing Kastel faction, which won the elec-

Professor takes the States on a Highland fling

by Olga Wojtas

Old Dominion University has until now been most noted for having the finest women's basketball team in the country.

But this reputation threatens to be overtaken by its fame as America's main centre for Scottish Studies.

Cynics might remark that the effort required to achieve that is minimal, but the Virginia university's Institute of Scottish Studies cannot be so easily dismissed.

After ten years, during which it has held increasingly prestigious Scottish academic conferences, the American premiere of Thea Musgrave's opera *Mary, Queen of Scots*, and the first international Scottish Arts Festival, the institute's latest venture is a major business conference designed to boost the Scottish economy.

The driving force behind the institute is the ebullient Professor Charles Hays, a native American (but with a great-great-grandfather from near Dunfermline), whose sense of mission was aroused 15 years ago during a conference on Colloquia at Aberdeen University.

"I was doing a PhD in history at Glasgow, and I was so impressed meeting so many outstanding professors and lecturers."

"When I got home, I found there was nothing in the US, not one historical or any kind of conference for Scotland. It was all British, which meant 95 per cent English, and the rest Irish."

So began Professor Hays' campaign to hold a Scottish Studies conference within Old Dominion's history department, to which he belonged. After a change of university presidents, he was finally given a grant to put on the first conference in 1971.

"It was a smashing success, and we went from strength to strength, with larger honours and more Scots..."

The 1976 Bicentennial conference was attended by hundreds of academics, and speakers included the dean of the arts faculties at both Edinburgh and Glasgow universities, Professor George Shepperson and Professor A. A. M. Duncan.

In the same year, the "programme of Scottish Studies" in the History department became a fully fledged institute funded by the commonwealth of Virginia under the directorship of the 36-year-old Professor Hays.

While the conferences have been arousing immense international academic interest, the teaching programme has been enjoying similar success among students.

"When we started about 70 per cent of the students had Scottish names - the class list read like pages from the Edinburgh telephone directory - so we had a captive audience. But now people are coming from all over, as far as Birmingham, Alabama, to find out about Scottish culture and history," says Professor Hays.

Scottish history courses are taught to both undergraduate and graduate students. A new course in Scottish culture is about to be launched (although one piece of Scottish culture is already available in the form of bagpipe lessons from Rhett McPherson). The institute also plans to offer courses in Gaelic, based on BBC Scotland's highly successful Gaelic language programme, *Can Sgo*.

Scottish-Americans searching for their roots can be helped in their genealogical searches by the institute, which has its own library facilities but also works closely with the appropriate agencies in Scotland.

The institute also sends many students to Scotland to attend academic courses, through scholarship fundations Benefactors, Donors, Patrons and Friends.

As in most American higher education, the Times Higher Education Supplement, National Press Building, Room 541, Washington DC 20045, Telephone: (202) 638 4765



Professor Hays: sense of mission

education institutions, the institute relies to a great extent on outside funding, and these benefactors provide money annually for books and equipment, the scholarships, and the institute's endowment fund.

The professor is especially concerned to build up the endowment fund which would cover the institute's expenses indefinitely. He estimates the amount necessary as

\$500,000, a mere bagatelle in terms of American fund-raising, and reckons the incentive to contribute is about to be boosted considerably.

Next month, the institute will open its own building on campus, and Professor Hays sees this as highly significant at a time when American, like British universities, are piling down their courses.

"It shows commitment from the university to the institute, and that should encourage people to give more money, not only Americans, but Scots all over the world."

The university's commitment is not likely to diminish while the tireless Professor continues to think up ways of promoting Scotland.

In 1978 came the kudos of putting on Thea Musgrave's opera as part of a Mary, Queen of Scots conference. (The world premiere had been held the previous year at the Edinburgh Festival, the historical consultant was Professor Charles Hays.)

Then the professor decided that an annual academic conference was not enough, and that every second year there should be something "special."

So this April he staged the first international Scottish arts festival, which an intrigued BBC came to film, and will broadcast next month.

The week-long festival, sponsored jointly by Old Dominion, the City of Norfolk, Virginia, and local businesses, included the tenth annual Scottish studies conference, boldly entitled: John Knox and Robert Burns: the odd couple, with speakers from several Scottish universities.

The festival featured the world premiere of Scottish playwright Donald Campbell's work *Till all the Seas Run Dry* based on Burns' life, and Scots actor John Cairney gave a performance of *The Robert Burns Story* amid a programme of traditional Scottish music and dancing came a Macbeth gala, with excerpts from Shakespeare's play and Verdi's opera.

Another remarkable episode was the belated absolving of Norfolk's royal governor, Lord Dunmore, who has always been blamed for razing the city to the ground in 1776. Apparently it was the Americans who were to blame, and Lady Anne Dunmore, widow of the Earl of Dunmore, came over from Edinburgh to receive a framed apologetic proclamation from Norfolk's mayor.

Professor Hays is already looking forward to 1983 when the institute will hold a conference on the Scottish Economy, Past, Present and

Future, with the direct aim of boosting Scottish trade and employment.

"For over a decade I've spent most of my energies on academic subjects, and the Scottish economy is an academic subject with materialistic overtones," says Professor Hays.

"If I am an academic can use my contracts to put on this sort of conference, I think in 1983 it will be needed even more than it is now."

All eight of Scotland's universities hope to participate, and the Scottish Development Agency has shown considerable interest. Professor Hays says the conference will enable American companies to find out about business opportunities in Scotland, and could also create a better business climate for Scotland in Germany, Japan and Canada.

"I'm desperate to do something for the Scottish economy. This might be a drop in the ocean, but it could be the first drop from which a bucket will come," he announced while in Scotland several weeks ago preparing the way for the conference.

While the Professor's Hardshell, showman approach is not a noticeable trait in the Scottish personality, it is unfortunate that the most obvious academic enthusiasm for Scotland comes from outside the country.

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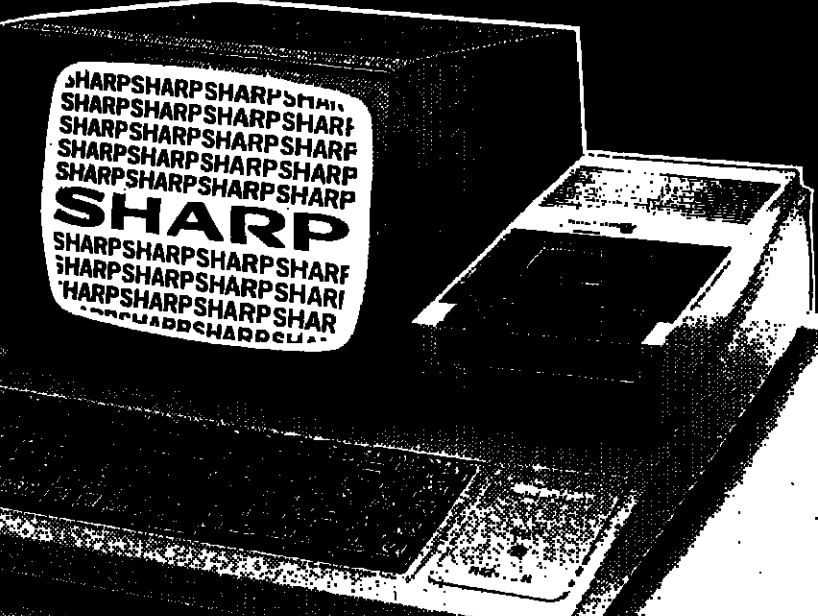
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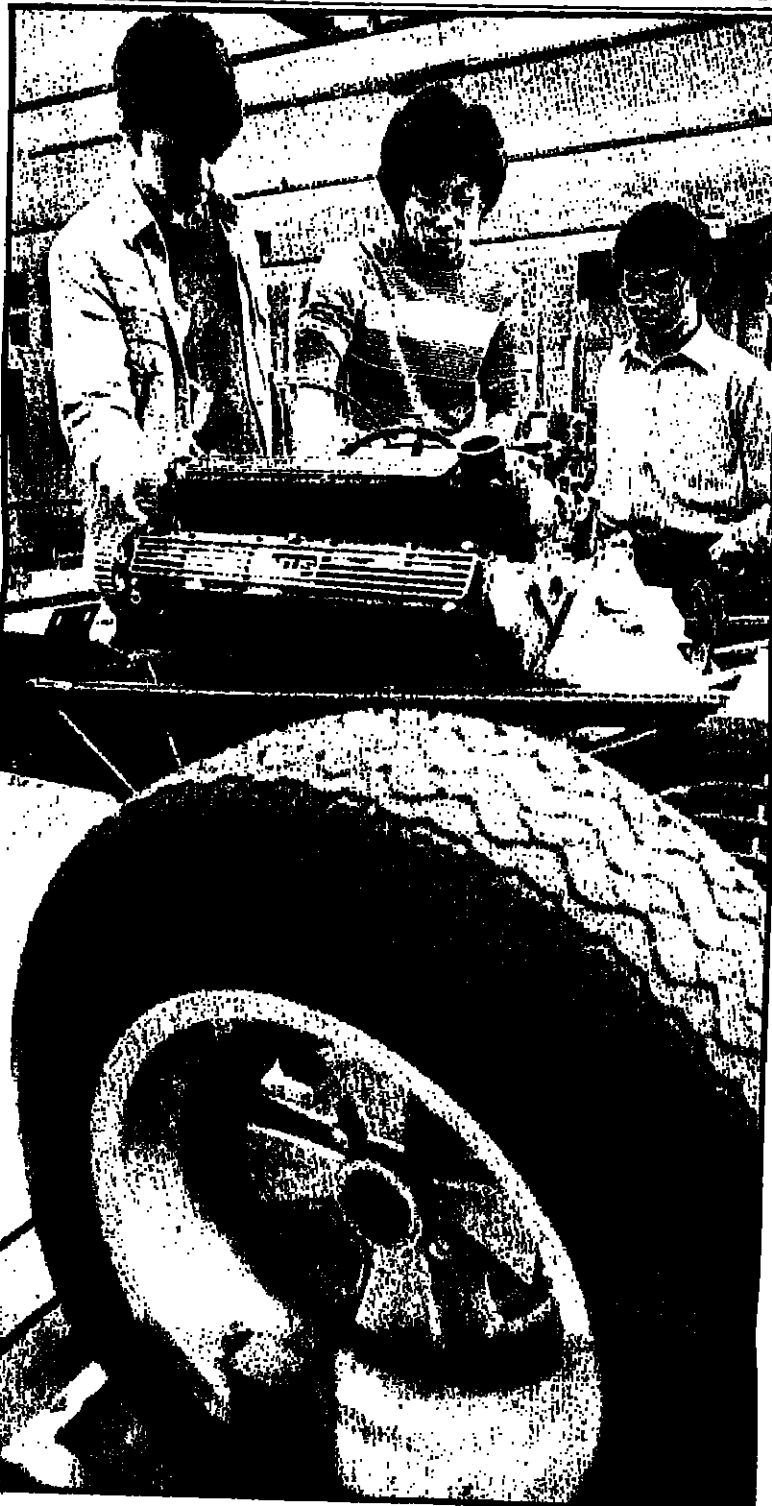
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Engineering students at King's College, London.

Towards engineering with

The use of technology is causing concern. Robert Seamans Jr and Kent Hanson suggest course changes to

The ancient practitioners of engineering worried about the education of their disciples much as we do today. Vitruvius, often cited as the main source of our knowledge of ancient times, wrote of his concerns about education and the need for both theory and practice over 2,000 years ago. By the Renaissance, engineering had become part of academia: Galileo was a professor of physics and military engineering at Padua.

The coupling of engineering with the military led to the first school of engineering, the École des Ponts et Chaussées, founded in 1747 in Paris as a training school for military engineers. The US Military Academy at West Point was established in 1802 to train officers for the Corps of Engineers; it did not become a general military academy until after the war of 1812. However, military needs and civil needs were so similar that nonmilitary engineering programmes also appeared during the same period. In France, the École Polytechnique was begun in 1794, and in the United States, the Rensselaer Polytechnic Institute was founded in 1824.

Harvard University introduced engineering in 1847 and Yale in 1850. The great technical institutes followed thereafter: Brooklyn Polytechnic in 1854, Cooper Union in 1859, Massachusetts Institute of Technology in 1861, Stevens Institute in 1871, and Case Institute in 1880. During most of this time, indigenous, university-trained engineers were outnumbered by engineers trained abroad or those who were self-taught. Yet increasingly, engineering became recognized as an academic discipline.

From 1850 to 1950, although the objective of providing skilled practitioners remained, the fundamental basis for knowledge shifted from experience to science. More and more technological training involved mathematics, physics, and chemistry and an attempt at understanding began to supplant experience as a basis for engineering education.

The demand for engineers in the

United States has now reached record highs, as reflected in the number of job openings as well as the salaries offered. Furthermore, the period of high demand is as long as any in the last 20 years, with no clear end in sight. The causes include the high level of federal and private-sector spending on energy technologies, the need for improved environmental controls, continued growth of defence spending, continued growth of computer technology and its applications, emerging new technologies such as genetic engineering, and the reaction of industrial organizations to the challenge of foreign competition.

The number of engineering graduates was over 50,000 a year five years after the end of the war, but only with a 40 per cent increase in the graduation rate from 1976 to 1979 has the number returned to the postwar level. The most recent data suggest that engineering enrolments are levelling off at a rate of nearly 60,000 bachelor's graduates per year.

From 1950 to 1970, an increasing proportion of engineering graduates chose graduate school instead of employment in industry for their immediate postgraduate activity. Then in the late 1960s and early 1970s there was a rapid turn-around. Although the draft status of students changed in 1968, many students were apparently disillusioned with technology and elected to leave the profession, often to seek careers in law and medicine. The recent reduced interest in graduate school is probably the result of the expanding job market and the higher costs of education. The percentage of graduates going into industry is now increasing, presumably for the same reasons.

As a direct result of the decline in graduate enrolment, the number of students continuing to receive doctor's degrees is shrinking. The number of doctorates in engineering has dropped by about 25 per cent from the peak in the early 1970s. Today, between 35 and 40 per cent of the doctorates in engineering are given to foreign students.

The drop in enrolment at the doctoral level (the number in 1978 is

only 56 per cent of the peak in 1972), will have far-reaching and diminishing consequences unless the trend is reversed. All fields require research for a better understanding of fundamentals and potential new directions, and collaborative studies by faculty and doctoral students are the key to this process.

The unifying context of engineering has been the exploitation of science to meet societal needs, and to drive for development provides continual impetus to engineers to search for improved or alternative applications.

This view of engineering as a "reactive" profession, in which practitioners respond to demands with their skills, ignores another important aspect, the creative aspect, a which new developments proceed perceived needs. A classic example is the airplane, which was not a direct response to the need for a new form of commercial transportation or national security.

One could also point to the camera, the telephone, and the phonograph as creative, not responsive, technological developments. There was no attempt by inventors to improve on what existed or to provide an alternative based on new technologies in their quest for innovation, and these technologies foster a variety of new societal needs. This aspect of engineering remains important and deserves careful nurturing.

Because engineers are at least somewhat responsive to social needs, they will clearly continue to contribute to social development. In view of the continuing growth of social needs, some observers feel that engineers have failed; that technology has brought society to a complex beyond our ability to manage or sustain it. However, each improvement brings an increase in social expectations.

We do not foresee a new set of social functions arising from engineering; rather, we see new problems within the profession's traditional areas of concern. The mismatch of expectations and actual

a human face

Seamans Jr and Kent Hanson satisfy the critics

technological performance has given rise to deepening moral concern about the use of technology, exacerbated by two additional factors: the increasing complexity of our society, owing partly to the successes of technology; and the expanding scale of activities that has brought us noticeably closer to limitations in natural resources and waste disposal.

The public has observed these technological impacts and is questioning societal values and goals to an unprecedented extent, protesting against power plants, refineries, pipelines, and highways. Indeed, the environmental movement partly reflects dissatisfaction with the goal of economic progress that characterized the past. Even more poignant conflicts arise over research into recombinant DNA, involving not only adequate safeguards but also the propriety of knowledge itself. Policy-making, decision making, and technological advance become increasingly complicated as the area of influence grows, and the practice of engineering will be profoundly influenced by this interaction.

Some of our present problems and new goals are reactive: problems created by one technology must be addressed or ameliorated with another technology. Other situations call for creative engineering, particularly for continuing innovation, for most economists agree that our national economic health is strongly dependent upon the invention of products and processes to compensate for our deficiencies in natural resources. There is a growing need for truly innovative technical approaches that satisfy economic and social issues to an unprecedented extent. The future of engineering, and thus the directions for engineering education, will be strongly influenced by these forces.

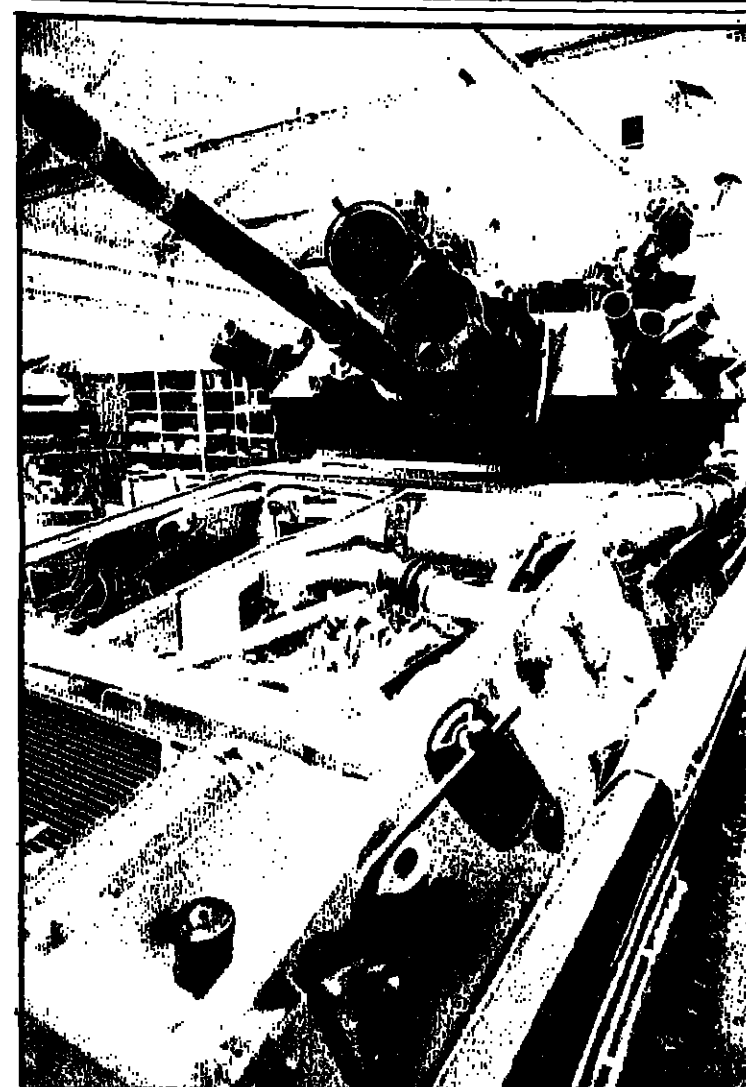
Formal programmes in engineering education were created because society needed people trained in the practical application of certain arts. This view prevailed for about 150 years: there was a continual deepening of scientific knowledge, and this strongly influenced the development

of technology through the flowering of engineering disciplines. In this era, society needed two types of engineers: "practising" and "entrepreneurial".

Engineering education attempted to provide the first type through a four-year professional education that included elements of natural science and thorough training in the engineering disciplines, with the emphasis shifting among analysis, synthesis, and design according to social needs. The task of teaching entrepreneurial engineers who would be inventors and promoters of the profession was left chiefly to chance. Technological developments during the war suggested that less structured education produced more flexible and creative technologists. Large numbers of postwar graduates were absorbed into society as a new kind of engineering scientist, and their contributions to communications and control, chemical and nuclear engineering, and materials science paved the way for fundamental social changes.

This view of the overriding importance of science prevailed until recently, when new social forces and constraints began to be perceived. Today, engineering education is in a fluid state with widespread conviction that changes should be made. Society will continue to need well-trained engineering scientists, practising engineers, and entrepreneurial engineers, and their education must accommodate the changing demands. The engineering programmes at many institutions last underwent major reform in the late 1940s and early 1950s, the beginning of the dramatic emphasis on graduate education. Today, society requires a wide spectrum of engineering types.

Two entirely new engineering types will be needed: the systems engineer and the management engineer. The word "systems" can be used to describe a physical entity composed of many different elements, such as an aircraft system that includes the airframe, power plant, hydraulic actuators, instruments, and radio, but we use the



Military engineering is a major programme.

term more broadly. The systems engineer must understand not only all internal interactions of an aircraft but also its external interfaces with the outside world. Systems engineers must see the aircraft as one element in a broader, more encompassing transportation system. In other words, systems engineers must be students of technology and human affairs. Management engineers, on the other hand, must be concerned with specifications, costs, schedules, tooling, purchasing, financing, and personnel — all the managerial factors required to design and produce products such as aircraft, automobiles, power plants, and home appliances.

Educational programmes must be responsive to the future needs for all types of engineers. Engineering education must continue to graduate highly trained, scientifically oriented engineers, particularly in rapidly evolving areas such as biotechnology, synthetic fuels, materials, and computers. At the same time, we must prepare engineers to meet the new managerial and systems needs. Although the five types of engineers have much in common, a variety of institutional changes are required to serve their distinctly different needs.

Undergraduate education for the engineering scientist should emphasize the natural and engineering sciences, structuring knowledge in the most fundamental way for a broad, general education. However, pressures on faculty members make it difficult for them to create the structures for incorporating the vital new knowledge into the curriculum. Therefore, the most important administrative contribution (once the curriculum has been synthesized) toward improving the quality of the engineering scientist is support of the faculty in writing textbooks and reference books that update and enliven teaching.

The education of engineering practitioners will require changes at three levels of undergraduate education: subject content; faculty; and the structure of degree programmes. Emphasis on engineering science has led to a reduction in the number of design subjects engineering undergraduates are required to take. To increase the industrial productivity, product design, production engineering, quality assurance, quality control, and principles of manufacturing and production must be emphasized. The return to many hours spent over a drafting board is not advocated. Rather, design subjects should reflect future industrial practice, with

emphasis on computer-aided design and computer-aided manufacturing. Design subjects can become one of the most interesting and challenging experiences of undergraduate engineering education. New junior faculty can be recruited from the ranks of industry, and recent graduates interested in teaching careers could take a postdoctoral year in industry. Indeed, some industries not only provide postdoctoral employment but are willing to offer consultants to junior faculty members after they return to campus.

Adjunct professors primarily employed by industry or government can provide important inputs by teaching courses, conducting seminars, and supervising theses, although universities are slow to take advantage of this outstanding opportunity. Retired engineers are another source of professional experience in valuable in teaching as well as the construction of new curricula. But these efforts cannot alone give students a taste for the environment of professional practice; they must also work in industry. Hence, cooperative education should be the standard path for those who wish to become practitioners.

Graduate programmes for practitioners belong in a special category. It is important that engineers be kept abreast of the rapid advances in scientific knowledge and new technology, and therefore the most important form of graduate education may be continuing education. Because competition for new graduates is intense in all engineering fields, an important element of corporate recruiting is the opportunity for advanced education after employment. This demand from industry represents both an opportunity and a challenge for engineering schools already carrying a heavy teaching load.

Individuals planning careers creating new technical industries or managing existing industries will require extensive knowledge of engineering and some understanding of marketing, banking, finance, accounting, and government regulation. Graduate studies in this area should be geared not only to recent bachelor's graduates but also to practitioners with five to ten years' experience who are beginning to take on management responsibilities. Such graduate programmes related to entrepreneurship and technological management are growing rapidly.

In some cases, the most attractive graduate programme for these engineers is a professional engineer's

degree that allows time to acquire the needed breadth and depth. There is also room for a substantial thesis experience but without the research emphasis of the doctorate. Departmental or perhaps interdisciplinary educational programmes could be created to meet the needs and objectives of these special students.

The most difficult and controversial educational challenge involves developing systems engineers; the technical community is concerned that programmes encompassing sociology, economics, and political science lack professionalism and are of passing interest. However, social concerns with technology will only increase, and it is not just prudent but necessary that engineering educators respond to these new conditions.

The systems engineer is likely to practise the profession in an environment different from that of the practitioner and entrepreneur possibly in a government agency, public-interest organization, law firm, or international agency, and thus a coherent programme in written and oral communications, historical and social perspectives of science and technology ethics and democratic governance, is essential.

Many engineering students enter professional training full of enthusiasm and intensity for science, treating mandatory humanities requirements as unwelcome intrusions into their pursuit of scientific knowledge. It is small wonder that they do poorly in humanities and gain little from the experience in spite of the Herculean efforts of humanities faculties.

Because systems engineers will spend their careers in nontechnical environments, they must learn to function in such milieu, and engineering educators quite properly hold to the humanities requirements. As an alternative, students could be allowed to pursue scientific and engineering subjects full time for their first three years. Then, when they become satisfied with technology and also have matured in their appreciation of the relevance of the social sciences, they could devote their entire last year to the humanities. Obviously, this suggestion would be inappropriate for subjects involving several semesters such as foreign languages. Nevertheless, there is sufficient potential for improved benefit to students and increased morale of the humanities faculty to warrant trial of such a programme.

Degrees could be given for studies of the interaction of technology with law, public policy, ethics, journalism, governance, and management. In an environment where engineering faculty members are already overwhelmed with keeping up with their own specialties, creating new knowledge through research, dealing with burgeoning enrolments, and attempting to improve engineering curricula, it is difficult to justify this dilution of resources. Nevertheless, the need for engineers qualified to interact broadly with society is urgent. The challenge is to create an organizational structure that maintains links with engineering departments and prevents proliferation of small, subcritical programmes.

Today, humanities students are generally presumed to be unsatisfactorily educated unless they have some understanding of the nature of the universe they live in. A recent study of the core curriculum at Harvard University suggested that students should become acquainted with "basic principles of the physical, biological, and behavioural sciences and with science as a way of looking at (people) and the world".

Given that the development of science and technology has an enormous impact on contemporary life, educated people should likewise have some understanding of the process by which science becomes technology and of the attitudes of the engineering profession. Therefore, an enormously important and challenging problem is to develop the means by which all students can acquire a deeper awareness of the technology that so profoundly influences their lives. Perhaps this is the greatest challenge facing educators today.

The authors are dean and associate dean, respectively, of the School of Engineering at MIT.

The rise and fall of the

Douglas Lewin looks at the logic behind

ing manpower and material, and the method of management.

The systems approach thus leads naturally to a "top-down" design, where initially the system objectives are derived independently from the means of achieving them.

The design process is iterative; in all stages, not just over the whole process. In this way the design may be optimized at any level to obtain the best solution.

The formulation of a model which is then subjected to experimental tests is a common feature of both the engineering and scientific methods. In the case of science the model (or hypothesis) represents the natural phenomena under investigation; whereas in engineering it corresponds to the system (artifact) being designed.

The scientific model normally corresponds to a closed system which is isolated from the real world (the environment) and has a restricted set of input and output variables. The output of the system is given by some explicit transformation or mapping of the input variables; thus the behaviour of the system can always be described explicitly in terms of its functional components.

A closed system must, according to the second law of thermodynamics, eventually attain a time-independent equilibrium state with maximum entropy. The approach of isolating a small part of the real world and systematically investigating it (called the reductionist method) is a fundamental aspect of science and a major source of its power.

The engineer however has to deal with the real world as it exists and the models he employs are more representative of an open system. Open systems have the characteristic of interacting dynamically with the total environment and are responsive to changing external stimuli.

Moreover the open system can adapt to its environment by changing the structure and processes of its internal components. An open system may, under certain conditions, attain a steady state, when the system reacts constantly while continuously interacting with the environment. The open system does not run down (phenomena of thermodynamics) because it can import energy (or information) from the environment.

In practice the engineer's problem is really one of complexity. The closed system model of the scientist, with a bounded and well defined set of input and output variables, leads generally to a deterministic solution. Where appropriate of course the engineer also uses this type of model. In the majority of cases however, the engineer is faced with a sophisticated system consisting of a very large number of elements that interact in a complex manner. In such a system the whole is greater than the sum of its parts in the sense that given the properties of the individual components and their laws of interaction it is extremely difficult (practically impossible) to infer the properties of the whole. This is particularly true for systems with user interaction (and systems are never totally automatic) which have a virtually un-

bounded input set and the ability (by feedback action) to modify or reconfigure their own structure. Thus it is unrealistic to expect to obtain a unique deterministic solution to an engineering problem.

The traditional scientific method was first systematically described by Francis Bacon and consists initially of carrying out carefully controlled observations and measurements on the particular phenomenon of interest. These findings are then examined and an attempt made to formulate some law or general hypothesis which fits the known facts. Experiments, designed to verify the validity of the hypothesis, are then set up which if proved successful finally lead to the formulation of a new natural law.

Hume cast considerable doubts on the inductive approach as used in science. Karl Popper in *The Logic of Scientific Discovery* postulated a solution to the philosophical objections to induction and in so doing has rejected the orthodox view of scientific method and replaced it with another. The basic tenet of Popper's argument is that though it is logically impossible to verify the proof of a statement, it is possible to produce proof of its falsification. Thus empirical generalizations though not verifiable are certainly falsifiable and scientific laws may be tested by setting up experiments designed to refute them.

Popper's philosophy of scientific method however goes much further than this, he maintains that the starting point of the process is the postulation of a theory, thereby eliminating the inductive process used in the

inventor design

empirical sciences. This belief that scientific discovery should proceed from theory to observation (the reverse of the orthodox approach) has been met with incredulity on the part of many scientists. Controversy still rages. However it would seem obvious that before any measurements are attempted a decision must be made as to the objective of the work, thus presupposing some existing theory.

Popper's approach is concerned with the postulation of a solution to a problem, which is then subjected to tests for falsification. It is the problem itself which is the real starting point, and the reasons for it method focuses on the need to precisely formulate the problem prior to attempting to search for a solution.

Popper's view of scientific method and the systems engineering approach are essentially concerned with problem solving in the broadest sense. The initial starting point in both cases being the specification of the problem to be solved followed by the postulation of a solution. Both methods proceed by subjecting the postulated solution to analysis and test in the light of experience and existing theory. In the engineering evaluation of a proposed design with respect to the original user specification, though the principle of falsification is not necessarily strictly adhered to in engineering, the technique of deductive testing is used extensively.

Both, proceeded by an iterative feedback process; both methods depend on creative insight and intuition in

postulating the solution to a problem; fundamental to both approaches is the concept that complex systems change in time due to the inherent feedback process — this interaction with the environment can of course be represented in both cases by the open systems model; the two methods are evolutionary in nature, with the engineering approach drawing on past experience, with due regard to physical and social constraints, to formulate a solution. It would appear from the arguments above that in attempting to establish engineering as a discipline in its own right with a well defined philosophy we have succeeded in proving that engineering is really science. However in so doing we have also shown that engineering is completely different in concept to the inductive empirical sciences, being based on an alternative deductive philosophy closely akin to Popper's logic of science.

It would not be untrue to say that Popper's philosophy of science is not as yet completely accepted by the scientific world. Unfortunately science departments still impart the orthodox view of experimental science based on inductivist arguments. While this attitude persists to consider engineering as an applied science and educate our young engineers irresponsibly and to the long-term detriment of the profession.

The author is professor of digital systems at Brunel University.

BOOKS

'Both lovable and oddly heroic'

by John Beer

The Opium-Eater: a life of Thomas De Quincey
by Grevel Lindop
Dent, £12.00
ISBN 0 460 04358 7

Thomas De Quincey: the prose of vision
by V. A. De Luca
University of Toronto Press, £9.00
ISBN 0 8020 5480 3

Nowadays De Quincey is probably read more by the common reader than by the student or scholar. He does not fit the normal critical categories, nor has any major critic (unless we except J. L. Borges) set him forward as exemplary. He has not been properly edited in recent times - partly because he was edited reasonably well nearly a century ago by Masson, but still more because some of his writing was derivative, avoiding charges of plagiarism only by the embellishing and improving of his sources. A proper edition would need to go into all this, comparing and analysing, and would call for unusual devotion. For the same reason the shape of his writing taken in the mass is unrewarding, making general studies difficult to achieve. Those who have written about him best, such as J. Hills Miller, in *The Disappearance of God*, or Alethea Hayter, in *Opium and the Romantic Imagination*, have been pursuing some particular theme.

His life presents similar problems. De Quincey himself was such a compelling autobiographer that his own accounts necessarily overshadow those of later writers. The biographer, unable to avoid quoting at length some of the great passages, is tempted simply to provide a context which will be a fitting setting for them. Since 1935 there has been no biography of him, yet during that time a number of major sources, such as John Jordan's *De Quincey to Wordsworth*, have become available.

Appreciating these problems, Grevel Lindop has set out to write a very straightforward life of his subject, drawing on the autobiography mainly as a source. Events which receive heightened treatment from De Quincey are cut down to size and presented in order as part of a proportioned narrative. The factual basis of some events is also queried. Although in most cases no final judgment is possible, Lindop's sceptical view often focuses attention on curious details that the normal reader may not pause to consider. In the well-known account of the Whispering Gallery and its echo, for instance, he is inclined to think that De Quincey was remembering the gallery as rectangular rather than as circular. I am not convinced of this, which would be a very egregious misremembering, but his further point that the description of the whisper arriving as "a deafening menace in tempestuous uproars" belies the simple, clear accuracy of the echo in St Paul's is persuasive. In the same way, the description of the Dee Bore seems to have exaggerated in retrospect the menace of the phenomenon. But although various incidents in the memoir may seem far-fetched, Lindop is inclined to give De Quincey the benefit of the doubt, which is wise: after all, most of us can recall unlikely events from our own experience. Who would now believe Coleridge's story that he was spied upon by a government agent in Somerset, had not the story been later confirmed from government archives?

One discrepancy which is very striking, nevertheless, concerns the well-known account of "going down with victory" in "The English Mail-Coach". The battle which is mentioned (with certain confirming details) is Talavera, yet it is almost certain that at the time of that battle De Quincey, who was living quietly in Somerset, took no long coach journey. So he must have been either fantasizing completely, or remembering the news of a different battle, which he then filled in with details of Talavera. In general, however, the evidence would suggest that his basic memories were accurate, and

that it was certain details (particularly those that could be construed menacingly) which expanded themselves in his memory. Such a steady and candid gaze at De Quincey's life focuses attention on what it was like to be committed to the profession of writing in the early part of the nineteenth century. Broadly speaking, De Quincey's writing career fell into two phases. The first involved a regular back-and-forth movement between the Lake District and London: he would stay in the Lakes until the lack of books and current newspapers became disabling, then move to London until the high cost of lodgings and homesickness for his family sent him back again. Then Edinburgh became his alternative to the Lakes; eventually his wife became so desperate at his absence that he moved the whole family to that city.

It is an interesting sidelight on the publishing history of the times that in spite of having a small private income and for all his gifts as a writer, De Quincey could not make ends meet. As a result his later career became that of a perpetual debtor. In the picturesque but humiliating ceremony of Edinburgh he was frequently "put to the horn", since owing money was not in itself an offence, the Sheriff's men would in certain cases blow their horns three times and pronounce a debtor to be a rebel; he could then be hailed to prison. The alternative, equally picturesque and less damaging, was for the debtor to take advantage of the ancient right of sanctuary at Holyroodhouse. So long as he remained there he was safe, and could sail forth into the centre of the city on Sundays, when his creditors could not touch him. Often the continuance of De Quincey's career meant that his children had to dodge through the backstreets and dark alleyways of the city so that his latest manuscript could reach the publisher. Faced with all this, it seems miraculous that he contrived to write at all; one advantage, at least, was that he never lost his sense of what it was like to be a "pariah", victim of the harshnesses of his society.

In many respects he resembles Coleridge, whom he knew and admired. It was not just a matter of opium-addiction; like Coleridge he had an omnivorous appetite for books and knowledge. As an intelligence, of course, Coleridge was in a different class, playing for much higher stakes, but in relation to the world about them the two men were alike, sticking obstinately to their chosen way of life in spite of the hardships entailed. De Quincey's life was often more wretched than that of Coleridge, who found sanctuary, after a few years of misery, in the Gillman household; on the other hand his trouble was lightened by the success of his marriage. Where Coleridge, alienated from a wife whom he never fully loved, could find no substitute, De Quincey never went back on his love for Margaret Simpson, whom in turn remained impressively devoted to him. Observers commented on a child-like quality in the later years of both men also: their single-minded devotion conserved an ultimate innocence.

De Luca argues that there is in fact a strong consistency of vision throughout De Quincey's work. He draws attention to some of the strange figures who are to be found in his "early diary" of 1803, and contends that they recur at crucial points. He also mentions that the persona behind such writings is a De Quincey removed from his ordinary social self, a figure of "autonomous imagination" constantly to be glimpsed behind the facades set up in the persistent strains of imagery such as during nightmares. And De Quincey, he thinks, became steadily more aware of the value of his own imagination: "it is as if De Quincey feels compelled to circle warily about his central theme of the imagination's power, occasionally approaching it and retreating, only to rush upon it at last, allowing it to transfigure his art."

The general shape that emerges is interesting, well summed up in the final account of De Quincey as embodying "one of those literary moments in which these venerable traditions (the

receive many pages of financial mourning from Coleridge, who had not, he said, had a shilling in his own pocket for many months. Never in literary history can two such Micawbers have been matched against one another. Having traced De Quincey's career through so many twists and turns of fortune, Lindop is able to describe him at the end as "both lovable and oddly heroic". He also concludes that it is as "the type of the literary drug-taker" that he will be remembered. This is both disappointing and in a sense the predictable result of his method. If one sets out to present a straightforward narrative of a man's life and if that life contains few secret events, one can expect to end up with a conventional characterization. Yet can this really satisfy Lindop's avowed aim of capturing De Quincey's personality in his book? Can we know such a man without exploring his imaginative achievements more fully?

For De Quincey, clearly, the inner life was crucial: Lindop himself is forced to recognize a degree of deliberate mystification in his self-presentation - as in the claim that the *Confessions* were written as an account of opium. (Here one need only inspect his statement that "not the opium-eater, but the opium, is the true hero of the tale": the very collapse of the metaphor detects the hollowiness of what is being avowed). At one point Lindop goes so far as to hint that De Quincey regarded the mental images aroused by his opium-taking as "glimpses of a hidden spiritual world": he even suggests that "from these elements he constructed a private mystery-religion of which only a few cryptic fragments are revealed in his writings". But he takes the point no further.

It is from the kind of evidence that Lindop is thinking of here that V. A. De Luca constructs his whole approach. Careful examination of De Quincey's writings reveals many strange echoes and cross-currents. An image here or an unusual name there will be reflected by others in works written perhaps many years later. If attention is focused on these, says De Luca, rather than on the episodes of his autobiography, patterns begin to emerge: "there appear certain figures, settings, and situations so gratuitously recurrent that one senses they really constitute the permanent imagery of some private world of experience." It is in the attempt to tease out this story behind the story, the myth "inscribed grandly though obscurely in many works", that his book is written.

A very different account emerges. Instead of following the events of De Quincey's life patiently through succeeding years, we are drawn to the contours of his literary career at its most imaginative: the *Confessions* of 1821-22, some sporadic essays and gothic tales in succeeding years and then the extraordinary re-emergence of his imaginative genius in *Suspense of Profundity*, a work produced in his sixteenth year, and some other pieces of visionary writing.

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Thomas De Quincey

traditions of apocalyptic vision) become transformed from expressions of the way to truth into reflexive emblems of consciousness". But how true is it that he came to regard the imagination as autonomous? De Quincey never seriously doubted the existence of an eternal moral order, though he found its workings continually baffling and disturbing. There is much in his work to feed the modern sense of the absurd, but it is hard to read that sense back into his own attitude.

De Luca is on surer ground when he relates De Quincey to Wordsworth, for Wordsworth's genius was the one with which he wrestled most continually and fruitfully. In *The Prelude* (of which De Quincey apparently had a manuscript copy during the years that it remained unpublished), there are frequent experiences which remind one of De Quincey's: momentary strangeness which offer intimations of an eternal world, but always in riddling terms. What De Luca says of "The English Mail-Coach" - that it postulates a universe "where everything equates to its opposite, where every horror is a glory, every abyss a mighty house of the Lord" - could be said in some measure of Wordsworth's autobiographical poem, also. Like Wordsworth, De Quincey never ceased to be attracted by the idea that such experiences might have offered glimpses of an eternal order; like him he was too much of a sceptic to affirm such possibilities openly.

At another level, the book fails to do justice to Wordsworth's impact on him. Early on, De Luca comments that De Quincey profited from the older poet's "revolution of intermingling the old and the sublime, exposition and personal revelation"; but he does not take much account of "the low": as a result De Quincey's feeling for the actual in human experience is underplayed. The episode where the young De Quincey collapsed in the street in London and was saved from likely death by the young street girl Anne, who rushed off to buy wine for him, is dismissed as a "trivial incident", unworthy of De Quincey's extravagant language. But it can hardly have seemed trivial to De Quincey himself, even after many years. De Luca has a distaste for what he calls "Victorian pietism" which seems to extend itself to all celebrations of human kindness. But this is to dismiss half of what De Quincey has to say. It is more profitable to penetrate the extravagances of language and discover the underlying authenticities.

In De Quincey's recognition that human kindness is to be found in the most unexpected places - a recognition which these legalist interpretations of the world which still oppressed the Victorians.

In the same way, De Luca seems to think that De Quincey's belief in progress wedded him to the modern world of technological progress that was spring-

ing up around him. His tribute to the growth of communications in "The English Mail-Coach" is seen as evidence of a love affair with technological developments. But close reading of that essay shows the case to be different. De Quincey was pleased by the communication of news, since it tightened the links between human beings in distant places, but his love was directed towards the mail-coach, with the strong animal energies of horses and the opportunities for human contacts along the road. He had with corresponding violence a distaste for the steam-engine which was speeding communications still further. It was the virtue of the mail-coach (like that of the wagon in Wordsworth's *The Waggoner*) to demonstrate that "we have all of us one human heart": that gave it its great power in De Quincey's eyes. The steam-engine embodied no such reminder: "on the new system of travelling, iron tubes and boilers have disconnected the heart from the ministers of its locomotion... The galvanic cycle is broken up for ever." The electric telegraph offered a better hope, but that again was because it imitated the great rhythms of nature, "the flowing and ebbing of the sea, or the systole and diastole of the human heart" - foreshadowing, he hoped, "a political system truly organic". The touchstone for him was not material progress, but the prospect of universalizing the human.

Many discriminations such as this need to be made if De Quincey is to be understood properly, and should be made if he is not to emerge as a figure stumbling between the old and the new. The positive element in his work is to be found in his constant assertions of simple and central human qualities, qualities which were often compromised by Victorian excess, but which have since dropped out of the vocabulary of many literary critics, blinding them, for instance, to the import of any nineteenth-century "heart".

In such matters the relationship with Wordsworth remains crucial. When De Quincey came to know him, he was exhilarated of the great period of already passing and he was assuming a domestic respectability which looked strange after the wandering and his sympathy with outcasts. But his early poetry. To his dismay, De Quincey found him rather unwilling to talk about nature, except in his intimate relations, and when he married a local girl the great poet of simple human affection opposed the match. All this was disturbing, and helps to explain that his reminiscences of Wordsworth were so often tinged with regret.

No book can do everything, however, and it is good to see a study which so frequently penetrates the apparent fustian of De Quincey's rhetoric to reveal its imaginative core. Grevel Lindop's biography will be widely read by those with general interest in the life

continued opposite

BOOKS

Twisting the knife

The Foundations of Structuralism: a critique of Lévi-Strauss and the structuralist movement
by Simon Clarke
Harvester Press, £20.00
ISBN 0 85527 978 8

The word "critique" has come to have an ominous ring to it. Ominous, that is, for the object of its attention. It suggests criticism without appreciation, and it promises doom and destruction. The theories of Claude Lévi-Strauss are the principal objects of Dr Clarke's critique and there seems precious little left of them by the end of it.

Of course both man and theory have suffered much from criticism and they have deserved a good deal of it. But somehow, albeit sadly diminished, they have survived, battered but not broken, reviled but alive and still insidiously influential. Can Dr Clarke inflict the coup de grace?

The Foundations of Structuralism is the distillation of a doctoral thesis awarded in 1975 and presumably begun some few years earlier. In the early 1970s Lévi-Strauss was still, for English speakers, powerfully enigmatic and no sustained criticism of the kind Dr Clarke offers had appeared, though there was much in the Anglo-Saxon journals and more still in the French. The past 10 years have seen a flood of attention, little of it complementary, as researchers in anthropology, sociology and philosophy have sought to stem the structuralist onward march by trampling on its last, feeble, rearguard positions.

There are three prongs to his criticism: the first is an argument against Lévi-Strauss's claims for the universal relevance of his theory and for the correlative claims to have discovered the universal in man's structuring capacity. Lévi-Strauss's structuralism is bogus. The second is the demonstration of the fatal flaws in all those claims to have found the basis for an objective science of meaning, and in the claims to be able to redirect the supposed success of the structuralist analysis of natural language to other forms of cultural experience. Thirdly, he wishes to show that the work of Lévi-Strauss, no less than that of Sartre, is to be understood primarily as a response to the particular crisis in western philosophy and indeed in western society in the mid-twentieth century, and that their joint *idée fixe*, the conflict-ridden relation of man and society, is based on a false dichotomy.

The central portion of the book, and the most important, focuses on the failure of Lévi-Strauss and structuralism generally (Chomsky's ling-

uistics is included) to establish a scientific status for the arguments and its findings. Lévi-Strauss's structuralism is unfalsifiable, it is based on arbitrary judgments and it retreats from the study of empirical reality through the presentation of models distortingly removed from that reality, towards a rationalist version of the unconscious. Its claims to provide an intrinsic analysis of meaning, both of natural language and of myth, fail on a priori grounds (the study of meaning must take into account intention and context). His theories have seduced others and he himself seems to have been seduced both by his analytic prestidigitation and his insubstantial humanism.

Very little of this can be denied; indeed it is the clarity of Dr Clarke's arguments rather than the arguments themselves which distinguish his treatment. But even within this clarity or even (heretical thought, this) because of it, something is amiss. For, despite the ritual kow-towing to the master in the preface, there is little indication in the book of why anyone could have ever taken Lévi-Strauss seriously. Dr Clarke's rigour blinds him to the productive ambiguities of the work and to any sense of the supreme intellectual achievement which sustains it. He has little sympathy for the presence of the unconscious in Lévi-Strauss's theories and little appreciation of its relevance in human affairs; his concern with the structuralist claims to have established a basis for understanding the objective meaning of a text (as opposed to Lévi-Strauss's hope that it might be possible to make increasingly better sense of the order that men create in culture) is misplaced; and his concern with the essential arbitrariness of Lévi-Straussian analysis seems to suggest that some basis for a non-arbitrary analysis of culture exists.

In short, this is a powerful book, but one that falls short of a mature appreciation.

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David Lodge remarks, in the introduction to his latest collection of essays and reviews, "I am not at all sure that poststructuralist discourse is susceptible of being assimilated and domesticated in a critical vernacular. To open a book or article by, for instance, Derrida or one of his disciples is to feel that the mystification and intimidation of the reader is the ultimate aim of the enterprise." Elsewhere he comments on Barthes's notion of "the Author" that "This Gallic paradox can be converted into a form more acceptable to Anglo-Saxon common sense". These typi-

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The rest of the book comprises three rather unexciting essays on Hardy, two chatty reviews of Waugh's life and work, a brief piece on problematic endings in modern fiction and some reviews of ephemeral matters. There is a persistent thinness in the collection, a sense of journalistic duty completely but not forcefully fulfilled. Only the essay on *Crow* came across as involving any real pressure of thought.

John Beer is a fellow of Peterhouse, Cambridge and University Reader in English Literature.

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BOOKS

Island ecosystems

Island Populations
by Mark Williamson
Oxford University Press, £19.00
ISBN 0 19 854134 1

Although the *Origin of Species*, which was published on November 24, 1859, had its origins in many observations carried out during the voyage of *HMS Beagle* and elsewhere, it was the study of islands and especially those of the Galapagos archipelago which Charles Darwin visited in 1835 that laid perhaps the strongest foundation for the theory. Similarly, Alfred Russel Wallace, with whom Charles Darwin published a joint essay on natural selection in the *Journal of the Linnean Society* in 1858 had also been strongly influenced by his studies of islands in South-east Asia.

Mark Williamson, who admits to a life-long fascination with the study of islands, has now adapted his series of lectures on this topic given to undergraduates at the University of York, in an attempt to bring the story up to date both from a historic and contemporary point of view. He discusses the origins and evolution of islands, the factors governing the number of species found thereon, and the structure of island communities.

The great value of the book lies in the clarity with which the author presents existing hypotheses and then points out their strengths and weaknesses. In particular he has considered at some length the importance of long time-scales in the evolution of island biota, an addition to the equilibrium theory that most students will find very interesting and stimulating. So frequently island studies are made on individual groups of species of one animal or plant group that the importance of ecological processes working within island communities is often obscured.

If any well-informed person were asked what factors would govern the number of species comprising an island community they would almost certainly list the island's area, its distance from land, its climate and its physical diversity among the most likely causal effects. In 1866 Sir Joseph Hooker (to whom Darwin had sent his and Wallace's essay on the origin of species) presented a paper to the British Association for the Advancement of Science on the characteristics and origins of island floras. In particular he noted that island floras tended to hold fewer species than continental areas of the same size, recognizing for the first time the concept of island species impoverishment. He also noted that endemic genera distantly related to continental groups were rarer on islands, although where the genera are completely distinct they may be more abundant. Finally, and perhaps most important in relation to modern hypotheses was the importance of species extinction, which he ascribed to the loss of island area through subsidence and to anthropogenic factors.

Many have applied themselves to the problems of species dispersal, community establishment and subsequent radiation, but it was not until MacArthur and Wilson published their two books on the theory of island biogeography in 1963 and 1967, that most of these ideas were drawn together in a single theory that could be used to explain the number of species found on islands. Since this time there has been a flood of papers and often acrimonious argument either supporting or refuting their ideas.

As is so often the case of fashion in science, one suspects that the acolytes of these theories have often used these ideas in manners and directions that exceeded the limits of the proposer's original arguments. Mark Williamson, however, has tried to dispel these dogmatic constraints in his consideration of island biogeography theory. Basically MacArthur and Wilson argued that there is a well established relationship between island area (size) and its distance from its major colonizing sources, from where potential immigrants could be expected to arise. Additionally, and more importantly, they concluded that the number of species on an island was the result of an equilibrium determined by a balance between immigration and extinction.

These isolated communities can be expected to vary whether they are oceanic islands, or terrestrial islands such as equatorial mountain biota. Indeed in many ways the alpine regions of isolated mountains are often far easier to reach than their oceanic counterparts, and it is therefore surprising that they have not been studied more extensively by students of biogeography theory. Discerning students of evolution, biogeography and ecology who continue to turn to island ecosystems as natural laboratories where the effects of isolation on speciation, animal and plant community establishment, and development can be observed at first hand, would no doubt appreciate a paperback edition of this important work.

Malcolm Coe

Malcolm Coe is lecturer in animal ecology at the University of Oxford.

Urban riddles

Britain's Inner Cities: problems and policies

by Paul Lawless
Harper & Row, £6.95 and £4.95
ISBN 0 06 318184 3 and 318151 1
(paperback available January 1982)

A Theory of Good City Form
by Kevin Lynch
MIT Press, £15.50
ISBN 0 262 12085 2

Paul Lawless follows contemporary wisdom in diagnosing the problems of the inner areas of British cities as being primarily economic in nature. (He wrote of course before the recent urban riots.)

He reviews seven possible strategies for the economic regeneration of inner cities, four being based upon the powers and potentialities of various organizations, and two reflecting right and left political opinion. The seventh strategy, that of the advocates of urban dispersal, sits uneasily in his schema, and surely should logically be followed by the counter-strategy for urban concentration, if there is one. These are not actually strategies at all, but programmes and proposals that bear variously on urban change.

Lawless's review helps, however, to bring out the severe constraints upon specifically urban economic policies. Local government efforts to promote and attract industry tend in a recession to cancel each other out. The central-local partnership schemes, launched by the last Labour government, entails a very elaborate machinery for achieving a pretty minor redistribution of funds to the least favoured areas. Central government agencies and public corporations are very big spenders, but their policies are dominated far more by efficiency considerations which often lead to plant closures and unemployment in the inner areas, than they are by considerations of social or geographical justice. Despite a few efforts to introduce an urban dimension.

The political parties have sounded the alarm over urban problems without knowing how to douse the flames. The Conservative Party's faith in freeing business from excessive planning and controls has still to prove much more incentive to actual investment. Labour still puts its faith in more public expenditure. It is true that the cuts in transport and other public services imposed can only weaken the cities' capacities for adequate maintenance, let alone regeneration, but public expenditure will in any case need to be more selective than in the past, especially if it is to help stimulate the very long and flagging levels of private investment in inner city areas. It is a prime symptom of the cities' problems.

The author finally asks more basic questions. Has the inner city problem been exaggerated by politicians, and is it becoming worse? The answer in each case seems to be yes. Official surveys suggest that up to 1970 or later the big terms of employment, incomes, and service levels. Since then there has been a more rapid decline in manufacturing employment, and in the future more office employment seems likely to follow industry out of the inner cities, whose economics seems unlikely to be benefited by new technologies.



Sculpture casted using the foam-vaporization technique (Alfred Duca, 1960). This is an intriguing modern variant of the principle of lost-wax casting, which first appeared around 3000 BC in Mesopotamia. In this technique, a wax model is completely invested in clay or other refractory material and is then melted and burned away, leaving its space to be filled with molten metal. Duca embeds a styrofoam model in a sand mold, into which molten metal is poured directly, evaporating the low-density foam and taking its place. Taken from *A Search for Structure: selected essays on science, art and history*, by Cyril Stanley Smith, published by MIT Press at £21.00.

been exaggerated by politicians, and is it becoming worse? The answer in each case seems to be yes. Official surveys suggest that up to 1970 or later the big terms of employment, incomes, and service levels. Since then there has been a more rapid decline in manufacturing employment, and in the future more office employment seems likely to follow industry out of the inner cities, whose economics seems unlikely to be benefited by new technologies.

Lawless himself accepts that there are national economic as well as local environmental gains from the progress of decentralization, and he deplores Canute-like efforts at re-industrialization. He also deplores the scrapping of new and expanded town programmes, which could offer an avenue of opportunity for some of the disadvantaged population in inner areas. Thus, paradoxically, he ends on a decentralist note, although he had earlier pronounced the "demise" of the dispersal school. Useful as a summary of facts and opinions, his book does not really succeed in suggesting a viable strategy for urban problems.

This failure reflects inadequate consideration of the potentialities of housing, transportation, and planning policies. After all vast public sums have been mistakenly spent upon unpopular high-rise housing, insensitive road schemes, and expensive land acquisition. Too little has been spent on community facilities, environmental improvements, parks, and public transport. Housing management policies have often been insensitive to the wishes of tenants and the need to assist mobility. Land prices have been inflated by big public subsidies and compensation procedures. Conservative and Labour alike seem to concentrate too much on aggregate public expenditure levels, and not enough on the possibilities and requirements of more sensitive and imaginative planning by the cities themselves.

Kevin Lynch would not make this mistake. His book is an attempt to suggest ways in which principles of urban design, form, and layout could improve the quality of life in cities. Lynch tries not to exaggerate the importance of physical environment, but he does argue that it can appreciate and influence social behaviour as well as vice versa. His book is a balanced statement by a moderately idealistic town planner, which gets easier and more rewarding as one proceeds. Initially the book deals rather briefly with

Analytical dynamics

Further Engineering Dynamics
by J. C. Maitland
Macmillan, £12.00 and £5.95
ISBN 0 333 24529 6 and 24531 8

Today's engineering students sometimes find with dismay that their profession requires an expertise in dynamics far beyond the simple notions of force equals mass times acceleration, an expertise needing several years' study of topics of considerable mathematical complexity. It is also true that there is already on the shelves a good number of excellent textbooks at all levels of dynamics, mostly of American origin, lavishly illustrated and well endowed with interesting examples. New arrivals must therefore offer something novel in approach or presentation to make an impact.

Dr Maitland's formula is a collection of advanced topics in analytical dynamics, concisely treated and brought together in a compact volume of 180 pages. A knowledge of plane dynamics, vector calculus and some facility with linear differential equations is presumed, and the material, organized in nine chapters, is weighted heavily towards fundamental space kinetics of particles and rigid bodies, with gyrodynamic applications well featured.

The first three chapters cover general principles and theorems, progressing from the momentum and energy theorems of systems of particles to the Lagrange formulation of equations of motion and including some fluid and variable mass examples. Chapter four is on vibrations but deals exclusively with the two degrees of freedom case.

Although chapter five presents an economical development of the established theory of rigid body motion in space, the material is not goes further than the specialized chapter title suggests, and students who experience the traditional difficulty with space motion and its components in rotating frames of reference will find it heavy going. Chapters six and seven then discuss a number of illustrations of gyroscopic effects such as rotors in vehicles and gyroscopic-based instruments.

Chapter eight provides an elementary discussion of dimensional analysis and modelling, and seems somewhat out of place. The final chapter is a short self-contained introduction to control theory extending as far as Nyquist stability concepts. There are worked examples throughout and sets of problems for each chapter.

The book is clearly aimed as a text for an integrated course in dynamics at senior undergraduate level and one recognizes the author's achievement in covering this material in a slim volume, making it eminently manageable as a class text. The contents will match well with many course requirements, with the possible exception of the chapter on vibrations. This falls far short of applications, and should at least have extended to general linear vibration theory in standard matrix formulation.

The clarity and effectiveness of the book, however, suffers from over-concise presentation, particularly in the chapters on rigid bodies. Students traditionally have difficulty with this and I would have regarded some expansion and review of material on vector differentiation and rotating frames of reference as essential. Similarly the material on applications (such as monorail stabilization) is attractive but needs some foreground discussion of response and stability concepts.

I found myself at variance with the author on a number of points of detail in the Lagrange chapter, in which there were certainly of tendencies in the treatment of constraints. Finally, I regretted the lack of any references for further reading, surely a gross oversight in any book which at many points alludes to material outside its scope.

J. W. Roberts

J. W. Roberts is lecturer in mechanical engineering at the University of Edinburgh.

BOOKS

HISTORY

Expressed in stone

Bath 1680-1850: a social history, or A Valley of Pleasure, Yet a Sink of Iniquity
by R. S. Neale
Routledge & Kegan Paul, £14.50
(after October 31, £18.00)
ISBN 0 7100 0639 X

The story of Bath as the pre-eminent English spa in the eighteenth century is an oft-told tale. Thence, in Cobbett's memorable phrase, "East India plunderers, West India floggers, English tax-gorgers, together with glutinous, drunkards and debauchees of all descriptions, female as well as male, resort, at the suggestion of silently laughing quacks, in the hope of getting rid of the bodily consequences of their manifold sins and iniquities".

The development of the spa, which transformed Bath from a small walled town of under 10,000 at the beginning of the eighteenth century into a spacious Palladian city of 33,000 by 1801, is often taken to have been the work of three men: employed by the Corporation as Master of Ceremonies between 1705 and 1745, Richard "Beau" Nash is credited with establishing the tone of the place; Ralph Allen, postmaster of Bath, acquired the quarries which provided the town with building stone and introduced to Bath the builder, John Wood, who is usually held to have been responsible for planning the urban Utopia.

Professor Neale sees this story a little differently. It is to James Brydges, first Duke of Chandos, "England's biggest financial tycoon", that he gives the credit for recruiting John Wood, then "an unknown and struggling surveyor digging dirt in the Avon Navigation just outside Bath" to assist him in their work.

They were aided by people like Chandos's agent in Bath, Richard Marchant, a Quaker land speculator, building developer and discounter of bills of exchange. "The Bath they created was planned by no one but emerged as a response to the needs of commerce, industry and the growing working class". It was, Professor Neale claims, "both product and symbol of the success of agrarian capitalism - an existential expression of society and its dominant, agrarian-capitalist ideology".

So much does little more than embroider the popular view of eighteenth-century Bath but for Professor Neale this is not enough. Since 1952 with as MA thesis, a clutch of articles and now this volume, he has argued that the concentration of pre- and post-war historians of Bath on the view that the extant letters on the whole give a fair impression of his attitudes and preoccupations. Volume five begins in January 1849, 17 months after his defeat in the general election, eight months after he finally retired from the Cabinet and from active politics, and just a month after the appearance of the first two volumes of the *History of England*. Although he had cut a considerable figure as a minister and an MP, the letters testify that he genuinely welcomed and relished his new freedom from major public duties.

He frequently rejoices that he can now devote himself almost wholly to what he loves doing - to reading, research, writing, and to conversing with family and friends. He is happy to be more involved in ancient literature and in the reign of William III than in the life of his own time: he was re-elected to the Commons in 1852, but took little part in the business of the House, and when he became a peer in 1857, he took his seat in the Lords, but never spoke there. Of course he remained interested in some aspects of contemporary politics, especially Indian questions, and a parliamentary crisis usually drew some comment from

him. But it does not appear to be merely through accidents of survival that these volumes contain little about the Crimean War, and no mention at all of Cavendish Macaulay remained one of the more active trustees of the British Museum, but it was during their meetings that he wrote several of these letters.

The editor, modest as always, confesses that these volumes reveal nothing startling and that the whole collection fills out rather than corrects the portrait drawn in Trevelyan's *Life and Letters*. Here are numerous further instances of the historian's affection and generosity towards his sisters and niece, down to the event which seems to have killed him - his sister Hannah's decision to join her husband in India.

Many letters illustrate Macaulay's famous certainty and omniscience. "I will venture to affirm that the single city of Edinburgh has done more for the human mind during the last hundred years than Italy, Spain and Portugal together during the last two hundred." Of course, he says, it is absurd to ascribe the wealth and prosperity of the United States to the influence of her deplorable democratic institutions. The office of Poet Laureate should be suppressed, because no modern English poets are good enough to hold it - this in the year when Tennyson succeeded Wordsworth. At the least provocation Macaulay will place in order the dialogues of Plato or the plays of Schiller. He admits to reading German (especially the hateful script) and Dutch with difficulty, but revels in Spanish, Italian and French as well as the classics. He takes Ptolemy to read on holiday, though his copy turns out to be rather heavy to carry about. By contrast, he gets through 14 books of the *Odyssey* while walking from Malvern to Worcester and back.

Much of the correspondence concerns the *History*. We learn a good deal about his method, his use of sources and his travels in search of documents and local colour. Some correspondents venture criticisms and are roughly answered. The Bishop of Exeter, having challenged Macaulay's account of Anglican attitudes to episcopacy in the early seventeenth century, is trounced with a remorseless parade of evidence trenchantly marshalled. The Quakers' good case for Penn is rudely dismissed. Babbington's defence of the Restoration clergy is called "silly". Just occasionally Macaulay's assurance is enlivened by flashes of doubt, and he acknowledges a mistake or an infelicity. He admits, for example, to having lost his temper with the Stuarts. Professor Pinney sometimes fails to pursue these points, and there is clearly room for at least an article to be written on the basis of these exchanges.

When consulted about a biography of his friend Jeffrey, Macaulay urged that "no letter should be printed which did not contain some indication of our friend's genius or his excellent heart"; and he "found no letters which I should choose to give to the public". Yet his own armoury as a historian was rendered formidable by the accumulation of apparently trivial information such as he was seeking to deny to students of Jeffrey, information enabling him, for example, to state exactly where James II was to be found month by month and month out. That Professor Pinney's edition includes mere invitations, acceptances, refusals, letters about investments and bills, descriptions of the weather and accounts of ill-health enhances its value to historians.

Another of Macaulay's categorical but unreasonable opinions concerned indexing: "The best rule is to keep close to proper names, and never to deviate from that rule without some special occasion." Hence the difficulty in tracing some of his allusions to his own *History*. Fortunately, Professor Pinney has adopted a different plan, and those who can afford to buy the last volume of Macaulay's correspondence will possess a marvellously comprehensive guide to the whole set.

The Letters of Thomas Babington Macaulay, volume five: January 1849 - December 1855, and volume six: January 1856 - December 1859 edited by Thomas Pinney
Cambridge University Press, £40.00 per volume
ISBN 0 521 22749 6 and 22750 X

These two final volumes of Professor Pinney's splendid complete edition of Macaulay's letters cover the last 11 years of the historian's life.

As with the earlier volumes, what has survived constitutes only a fraction of all he wrote; and the other side of the correspondence has almost always been destroyed. Nevertheless, good runs exist of letters to his friend Ellis and to his favourite sisters and niece. The evidence of his diary, which it would be good to see published in full, supports the view that the extant letters on the whole give a fair impression of his attitudes and preoccupations.

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the period after

Indeed the appearance of an additional volume in the Oxford History of England series is an event in itself. This new edition was undertaken in recognition of the tremendous advances in

But Dr Salway's account is more than just an historical narrative, for he also attempts a lengthy consideration of the social and economic structure of the province. It is precisely in this area of study that one would expect the archaeological data to have increasing

Germany in the Age of Total War
edited by Volker R. Berghahn and
Martin Kitchen
Croom Helm, £13.95
ISBN 0 7099 0119 4

Not war, but the intellectual background to National Socialism forms the subject of Gary Stark's enquiry. In his aptly titled monograph, Stark approaches a familiar topic from a new angle, as this is a study of the neoconservative movement structured around a discussion of its leading publishers. Yet, although he offers both insights into the social functions of the book trade and some fascinating detail about neoconservative publishing, Stark presents rather little new in the way of interpretation.

With the onset of the economic crisis, the drying up of American capital and the contraction of world trade, things changed. No longer could the "dynamic fraction" of industry afford *Sozialpolitik* and, by extension, the pluralist democracy which allowed it to come into being. The result was growing determination to use the crisis not only to dismantle social legislation but also to eliminate economically threatening political structures. This in Abraham's view, was the logic which drove the dominant social classes, themselves unable to generate mass political support for their programmes, to accept Nazi participation in government.

Praise is also due to the publishers of the English translation of Moritz Broszarski's *John F. Kennedy*, who have accomplished the task which, given the complexities of Broszarski's German, few would have dared attempt. First published in Germany in 1966, this is probably the best single volume on the structure and development of the Nazi state. At the same time, it is an important contribution to a debate currently raging among German historians about how, or even if, they should examine structures of power in the "Third Reich" rather than concentrate upon the personality of the Führer. It is fortunate that this volume last this book is available to our reading students.

Richard Bessel is lecturer in history at the Open University.

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★ ★ ★
"The Disorder in World Money" The Right Hon. Harold Lever, P.C. gives the LSE Saturday-Toyota lecture on Tuesday, October 13 5.30 pm in the Old Theatre.

In *The THES* (September 11) Professor A. Crombie was shown as being appointed *dean* of the medical school. This should read *associate* dean of the medical school.

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Universities

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Applications are invited for the following posts in the Faculty of Law:-

1. Professor in the Department of Public Law

Applicants must be distinguished academics of long standing in teaching and research at University level. The appointee will be required to teach and supervise research to both undergraduate and postgraduate students, as well as to provide leadership in the development of courses in the Department. He/she will also be expected to assist in the administration of the Department and the Faculty as a whole. Special consideration will be given to candidates whose research and teaching interests are in any two or more of the following fields: Public International Law, Private International Law, Constitutional Law and Government, Environmental Law, Revenue Law, Law of the Sea and Criminal Law.

2. Associate Professor in the Department of Commercial Law

Applicants must be distinguished academics with extensive teaching and research experience, preferably at post doctoral and University level. The appointee will be required to direct and supervise both undergraduate and postgraduate students' research, as well as provide leadership in the development of the Department and the Faculty as a whole. Special preference will be given to applicants whose research and teaching is in any one or more of the following fields: Law of Civil Obligations, Family Law, Jurisprudence, Tort and Tax Law.

3. Associate Professor in the Department of Private Law

Applicants must be distinguished academics with proven experience in teaching and research at University level. The appointee will be required to teach and direct and supervise research to both undergraduate and postgraduate students, as well as to provide leadership in the development of the Department. He/she will also be expected to assist in the administration of the Department and the Faculty as a whole. Special preference will be given to applicants whose research and teaching is in any one or more of the following fields: Law of Civil Obligations, Family Law, Jurisprudence, Tort and Tax Law.

Salary scales: Professor KE 4,000-6,000 p.a. Associate Professor KE 3,000-5,000 p.a. (KE 1 = £1.25 sterling). Non-contributory medical scheme: subsidised housing or housing allowance; family passages.

Detailed applications (2 copies), including a curriculum vitae and naming 3 referees, should be sent to the Registrar, University of Nairobi, PO Box 30197, Nairobi, Kenya, to arrive no later than 26 October 1981. Applications should be sent in triplicate to the Registrar, University of Nairobi, PO Box 30197, Nairobi, Kenya, to arrive no later than 26 October 1981. Applications should be sent in triplicate to the Registrar, University of Nairobi, PO Box 30197, Nairobi, Kenya, to arrive no later than 26 October 1981.

Further information regarding details of application procedure and conditions of appointment is available from the Registrar, University of Nairobi, PO Box 30197, Nairobi, Kenya, to arrive no later than 26 October 1981.

Applications should be submitted by 16 October 1981.

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UNIVERSITY OF GUYANA

Applications are invited for the following posts in the Department of Electrical Engineering:

1. PROFESSOR OR SENIOR LECTURER in the Department of Electrical Engineering

The appointee will be required to conduct two courses: (i) Theory of Structures; (ii) Advanced Structural Analysis and Design. These courses are for final year B.Sc. degree students. Applicants must have at least a postgraduate degree in Structural Engineering, evidence of research and industrial experience. He/she must have at least a second degree and produce evidence of research. They should have had some industrial experience. The appointee will be required to teach in one or more of the following fields: Digital Systems, Communication Systems, instrumentation and Control.

2. SENIOR LECTURER in Structural Engineering in the Department of Electrical Engineering

The appointee will be required to conduct two courses: (i) Theory of Structures; (ii) Advanced Structural Analysis and Design. These courses are for final year B.Sc. degree students. Applicants must have at least a postgraduate degree in Structural Engineering, evidence of research and industrial experience. He/she must have at least a second degree and produce evidence of research. They should have had some industrial experience. The appointee will be required to teach in one or more of the following fields: Digital Systems, Communication Systems, instrumentation and Control.

3. SENIOR LECTURER in Theory of Machines and Materials in the Department of Mechanical Engineering

The appointee will be required to conduct two courses: (i) Theory of Machines; (ii) Theory of Materials. These courses are for final year B.Sc. degree students. Applicants must have at least a postgraduate degree in Mechanical Engineering, evidence of research and industrial experience. He/she must have at least a second degree and produce evidence of research. They should have had some industrial experience. The appointee will be required to teach in one or more of the following fields: Digital Systems, Communication Systems, instrumentation and Control.

A tour of duty of at least one year is required. Salary scales (under review): Professor G\$20,000-24,000 p.a. Senior Lecturer G\$18,000-18,500 p.a. (G\$1 = £0.636).

The Higher Education Division may provide salary supplementation in range £2000-£5000 p.a. (under review).

Detailed applications (2 copies), including a curriculum vitae and naming 3 referees, should be sent to the Registrar, University of Guyana, PO Box 10110, Georgetown, Guyana, to arrive no later than 21 October 1981. Applications should be sent in triplicate to the Registrar, University of Guyana, PO Box 10110, Georgetown, Guyana, to arrive no later than 21 October 1981.

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Universities continued

University of Melbourne

LECTURESHP/ SENIOR LECTURESHP

(Continuing)

In the Department of Computer Science

Applicants should have a Ph.D. in Computer Science or equivalent qualifications, together with a proven ability and leadership in Computer Science.

The successful applicant will be expected to give lectures at both the undergraduate and graduate levels and to supervise postgraduate students in Computer Science. He or she will be expected to pursue an active research programme.

The Department's computing facilities include a P.C. 386 and a VAX 11/780, both of which operate under UNIX Level 1. In addition there are a number of mini and micro-computer systems. The computer is used for research and teaching purposes.

The successful applicant will be expected to take up duty on 1st July 1982 as soon as possible thereafter.

Salary scale: \$15,821-21,123 p.a. (A\$1 = £1.25 sterling). Further details are available from the Registrar, University of Melbourne, Parkville, Victoria 3052, Australia, or from the Association of Commonwealth Universities (ACU), 38 Gordon Square, London WC1H 0PF. Applications close on 1 December 1981.

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Polytechnics continued

Leeds POLYTECHNIC

Applications are invited for the following temporary posts (to run from 1 January 1982 to 31 July 1983)

School of Mechanical and Production Engineering

LECTURER II

In Production Organisation and Management To teach these subjects to BSc honours level. High academic qualifications are required and the ability to contribute to the development of a part-time MSc in Production Engineering.

School of Accounting and Applied Economics

LECTURER I

In Organisation Sociology To teach degree, diploma and professional courses relating to the public and private sectors. In particular to teach on a new joint degree programme BA (Hons) European Studies in Finance and Accounting/Diploma - Betriebswirtschaft - involving some visits to Germany. A relevant first degree is required and preferably suitable industrial experience.

School of Creative Arts and Design

LECTURER II in Graphic Design

able to teach on a Honours course in the subject area and with a special interest in illustration.

LECTURER II in Fine Art

To teach painting/sculpture on the BA Hons Course.

School of Humanities and Contemporary Studies

LECTURER II in Organisational Studies

To teach communication skills and aspects of organisational studies and industrial psychology on a range of vocational degree and certificate courses.

School of Business Studies

LECTURER I

Details for The Services Office, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE. Tel: 0532 462356. Closing date: 9 October 1981. Please enclose s.e.e. THES3

THE QUEEN'S COLLEGE, GLASGOW

(A Scottish Central Institution)

LECTURER 'A'

IN COMPUTING AND STATISTICS:

Post Reference 81/07RR

SALARY SCALE: £8894-£11160 (Bar) - £11885

This is a new and challenging post, established to develop a college based computer service. Further particulars and application forms for the above post, quoting the post reference number, may be obtained from:

The Personnel Office,
THE QUEEN'S COLLEGE, GLASGOW,
1 Park Drive,
Glasgow G3 8LP.

The closing date for receipt of applications is Wednesday 14th October, 1981. THES3

BRISTOL POLYTECHNIC

DEPARTMENT OF LAW

TEMPORARY LECTURER IN SENIOR LECTURER IN LAW

Applications are invited for this temporary post which is available on a full-time basis from 1st January 1982 to 31st August 1982. The person appointed should have a good knowledge of law and a professional qualification would be an advantage. Further details and application forms may be obtained from:

Dr. J. G. M. Jerrard, Applications are invited for the above post. Salary: £11,160 - £11,885 (Bar) - £12,160 (max).

The appointment will be made on the basis of a written examination. The person appointed should have a good knowledge of law and a professional qualification would be an advantage. Further details and application forms may be obtained from:

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LEITH NAUTICAL COLLEGE
EDINBURGH

PRINCIPAL

The Governors of the Leith Nautical College invite applications from suitably qualified and experienced candidates to fill the vacancy when the present Principal retires from office in July 1982.

Leith Nautical College is a modern, purpose-built Scottish Central Institution financed by the Scottish Education Department.

The College conducts a wide range of full-time courses leading to examination by the Scottish Technical Education Council, the Department of Trade and the Home Office and has increasing involvement in the off-shore oil industry. The departments are the Department of Marine Electronics and Electrical Engineering, the Department of Marine Engineering and the Department of Navigation.

The College is a Group 4 Central Institution and the post carries a commensurate salary.

Written applications and curriculum vitae together with the names of two referees should be addressed to the Chairman of the Board of Governors and returned to the College not later than Friday 23rd October 1981. Full particulars are available from the Secretary/Treasurer, Leith Nautical College, 24 Milton Road East, Edinburgh EH15 2PP. THES3

PLYMOUTH POLYTECHNIC

FACULTY OF TECHNOLOGY

DEPARTMENT OF MATHEMATICS, STATISTICS AND COMPUTING

RESEARCH FELLOWSHIP

Applicants are invited for a research fellowship to undertake research on problems in dynamic fluid-structure interaction. The fellow will be concerned with deriving numerical and analytical techniques for the scattering and radiation of acoustic waves by elastic structures.

Applicants should possess, or be about to obtain, a Ph.D. or have equivalent qualifications in mathematics, physics or engineering. Previous work in acoustics is not necessary but experience with integral equation or finite element methods would be an advantage.

Financial support is provided by the Ministry of Defence and the salary scale is £8462-£10,431. Details on the scale will be according to qualifications and experience. The appointment will commence as soon as is mutually agreeable and is expected to last for three years.

Application forms to be returned by Friday, 10th October 1981 can be obtained with further particulars from Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA. THES3

Applicants should possess, or be about to obtain, a Ph.D. or have equivalent qualifications in mathematics, physics or engineering. Previous work in acoustics is not necessary but experience with integral equation or finite element methods would be an advantage.

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DUNDEE COLLEGE OF TECHNOLOGY

LECTURESHIPS (2)

IN CIVIL ENGINEERING

Applications are invited from candidates having a good honours degree in civil engineering together with relevant teaching, industrial and/or research experience. The vacancies are in the areas of Foundation Engineering and Water Engineering; and the person appointed will be required to teach up to honours degree level, to develop their special fields of interest and undertake research in these areas. The salary is on the Lectureship (A) scale via: £8894-£11,160 (bar) - £11,885, with initial placing dependent upon approved prior experience. Financial assistance towards the cost of removal expenses may be payable. Further particulars and application forms obtainable from the Personnel Officer, Dundee College of Technology, Bell Street, Dundee DD1 1HG, to whom completed applications should be returned by 8 October 1981. THES3

Colleges of Higher Education

Roehampton Institute

Digby Stuart
Froebel
Southlands
Whitlands

Courses offered by the Roehampton Institute of Higher Education are in combined studies leading to university first and higher degrees. The Institute now seeks to make the following FIXED-TERM appointment as soon as possible for a period running to 31 August 1983:-

LECTURER II - IN ECOLOGY

The Department of Sciences requires, for January 1982, a well qualified graduate to lecture in ecology and who has a special interest in human ecology. The successful applicant will be joining a flourishing department with research facilities and opportunities for research. Excellent opportunities for a wide range of ecological studies are available on the sites of and in the area local to the colleges. There is also easy and rapid access to central London.

Salary: £8462-£10,431 plus London Allowance £768.

Further particulars and application forms may be obtained from R. A. Fennell, Assistant Secretary, Roehampton Institute of Higher Education, Richardson Building, Digby Stuart College, Roehampton Lane, London SW15 6PH. Closing date for applications: Monday 12 October 1981. THES3

Roehampton Institute

Digby Stuart
Froebel
Southlands
Whitlands

Courses offered by the Roehampton Institute of Higher Education are in combined studies leading to university first and higher degrees. The Institute now seeks to make the following FIXED-TERM appointment as soon as possible for a period running to 31 August 1983:-

LII - IN DRAMA

Candidates should be graduates with experience in teaching and/or the professional theatre.

Salary: £8462-£10,431 plus London Allowance £768.

Further particulars and application forms may be obtained from R. A. Fennell, Assistant Secretary, Roehampton Institute of Higher Education, Richardson Building, Digby Stuart College, Roehampton Lane, London SW15 6PH. Closing date for applications: Monday 12 October 1981. THES3

College of St. Mark & St. John

TEMPORARY LECTURER IN SOCIOLOGY

(Full-time One Year)

Research

CARDIFF
UNIVERSITY COLLEGE
DEPARTMENT OF
PSYCHOLOGY

RESEARCH ASSISTANT
Applications are invited for the post of RESEARCH ASSISTANT to work with Dr. J. M. Pearce on a 3-year project concerned with the development of information processing in animals.
Applicants should possess a good honours degree in Psychology or a related subject. Further details may be obtained from Dr. J. M. Pearce (0222-44911) Ext. 240. Salary Range: £5,285 - £6,070 p.a.
Applications, together with the names and addresses of two referees, should be forwarded to the Vice-Principal (Administration) and Registrar, University College, P.O. Box 76, Cardiff (CF1 1AL) from whom further details will be available. Ref: 2574. Closing date: 3rd October 1981. H10

CARDIFF
UNIVERSITY COLLEGE
DEPARTMENT OF COMPUTING
MATHEMATICS
SERC COOPERATIVE DATABASE
PROGRAMMER

Applications are invited for the above post on a two-year research project funded by the SERC to develop, in cooperation with other sites, a heterogeneous distributed database system. The system programmer will be responsible for the design, development and testing of the distributed system. Salary Range: £6,070 - £7,260 p.a. (plus increments as soon as possible).
Applications, together with the names and addresses of two referees, should be forwarded to the Vice-Principal (Administration) and Registrar, University College, P.O. Box 76, Cardiff (CF1 1AL) Closing date: 9th October 1981. Ref: 2585. H10

BATH
UNIVERSITY OF
SCHOOL OF PHYSICS

A RESEARCH OFFICER is required to join a research team working on the application of laser techniques to short range, high resolution surface scanning. Applicants should be Electronic Engineers or Physicists with a higher degree or suitable industrial experience. Knowledge of laser systems or surface processing techniques would be an advantage, though not essential.
Starting salary in the range £11,000 to £12,000 according to qualifications and experience.
The appointment is for up to four years.
Applications forms and further particulars from the Personnel Office, University of Bath, Bath, BA2 9AY, or by post to: 11/10, Closing date: 15.10.81. H10

Industry and Commerce

ENGINEER TRAINING OFFICER

T. P. O'Sullivan & Partners, a firm of consulting civil engineers engaged in providing Technical Assistance and Training to overseas governments and administrations, wish to recruit a Training Officer with a technical background to take charge of the training side of their practice. The person appointed will be expected to contribute to the development and management of the side of the practice.
The person appointed will report directly to the Partner in Charge of Training and work with the firm's Training Consultants. As Training Officer, he or she will be responsible for identifying and analysing the training needs of Government Departments, responsible for assessing civil engineering and related works for proposing training methods, and for designing and managing the implementation of programmes as well as evaluating the results. He or she may also, from time to time, be expected to participate in the general running of the practice. The post will provide considerable opportunities for overseas travel.
The post is London based and considered to be suitable for someone in their mid-thirties wishing to develop his or her career prospects. The starting salary will be in the range of £11,000 to £12,000.
Candidates should offer:
- a minimum of three years' experience in the development and implementation of training programmes
- consulting as well as teaching experience
- management ability, and
- a good academic and engineering background.
Written application enclosing up-to-date copies of C.V.s should be forwarded to D.P. Powell at T. P. O'Sullivan & Partners, 55/56 Putney High Street, London SW15 1BP. H10

Overseas

ELECTRON MICROSCOPE UNIT
UNIVERSITY OF NATAL
PIETERMARITZBURG

Applications are invited for the post of
TECHNICIAN
In the Electron Microscope Unit
This post requires a person who has had some experience in the field of electron microscopy. At present the main users of the Unit are postgraduate students and academic staff attached to departments involved in biological research. The duties will include basic maintenance of the electron microscope and auxiliary equipment, preparation of biological and other material for transmission and scanning electron microscopy, and photography. Commencing date for the appointment will be 1st January 1982 or as soon as possible thereafter. Applications close on 1st November 1981.
The salary will be in the range: R10 000-R18 230 p.a.
In addition, an annual service bonus equivalent to 53% of one month's salary, is payable, subject to Treasury regulations.
Please apply to Miss Jenny Lloyd, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE. Tel: 01-242 1766 or 02-406 5534. PMB 63/61. H10

Capricornia Institute of
Advanced Education
Rockhampton, Queensland
Australia
Department of Mechanical Engineering
LECTURUR

A vacancy exists to teach at degree/associate level in manufacturing engineering, engineering economics, mechanics and materials, with plant and process engineering as an alternative.
The Institute is in the centre of a region with a number of rapidly developing industries including aluminium, coal, oil shale and power generation.
Salary will be in the range of A\$17,083 to A\$26,037 depending on qualifications and experience. Appointment will be made on a contract basis for a two or three year term. Specific enquiries to:
Dr. R. Boothroyd Head, Department of Mechanical Engineering.
Applications including full personal particulars, a resume of experience and qualifications together with the names and addresses of three referees should be forwarded to the Registrar, C.I.A.E., Rockhampton, Queensland 4700, Australia, by 16 October 1981.
Further information available from the Agent General for Queensland, 392/393 Strand, London WC2R 0LZ. H10

ELECTRON MICROSCOPE UNIT
University of Natal
PIETERMARITZBURG
Applications are invited for the post of
CHIEF TECHNICIAN
In the Electron Microscope Unit

The post requires a person who has had considerable experience in the field of electron microscopy and in particular biological aspects of electron microscopy. The successful applicant should have some technical qualification and/or relevant experience. Applicants with a Bachelor of Science degree or higher qualification will also be considered.
The successful applicant will be required to administer the day to day running of the Electron Microscope Unit and will be responsible to a Committee of Control made up of members of the main user departments in the Faculties of Science and Agriculture. The present staff complement includes Chief Technician, two Technicians and a Laboratory Assistant.
Applicants who feel that they have the relevant qualifications and/or experience, are able to deal with people, possess the ability to encourage, supervise, advise and in some cases collaborate on research projects involving electron microscopy, should submit their applications before 1st November 1981. Commencing date for the appointment will be 1st January 1982 or as soon as possible thereafter.
The salary will be in the range: R12 420 - R15 870.
In addition, an annual service bonus equivalent to 53% of one month's salary, is payable, subject to Treasury regulations.
Please apply to Miss Jenny Lloyd, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE. Tel: 01-242 1766 or 02-406 5534. PMB 63/61. H10

UNIVERSITY OF NATAL
Faculty of Law
Durban, South Africa

Applications are invited from suitably qualified persons, regardless of sex, religion, race, colour or national origin, for appointment to the post of

PROFESSOR OF PUBLIC
LAW & SENIOR
LECTURERS/LECTURERS
In the Departments of Private Law, Public Law
and Commercial Law

Applicants for the post of Professor of Public Law should be qualified to teach and research in any one of the following areas (a) Jurisprudence and Public International Law, (b) Constitutional Law and Government, and (c) Criminal Law and Criminology.
Applicants for the Senior Lecturer/Lecturer post should indicate clearly in which Department(s) they are interested.
Salaries in the range:
Professor: R20 040 - R28 230 per annum
Senior Lecturer: R14 240 - R20 040 per annum
Lecturer: R10 040 - R14 240 per annum
The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, a service bonus of 53% of one month's salary is payable subject to Treasury regulations.
Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidy schemes, long leave conditions and travelling expenses on first appointment are obtainable from The Secretary, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Registrar, University of Natal, King George V Avenue, Durban, 4001, South Africa, with whom applications, on the prescribed form, must be lodged not later than 22nd October, 1981 quoting the reference D.96/81. H10

UNIVERSITY OF NATAL
Department of Mathematics and Applied Mathematics
PIETERMARITZBURG

Applications are invited from suitably qualified persons regardless of sex, religion, race, colour or national origin, for appointment to the post of

LECTURUR

The salary will be in the range: R10 000-R18 230 p.a.
The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, an annual service bonus equivalent to 53% of one month's salary, is payable, subject to Treasury regulations.
Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidy schemes, long leave conditions, and travelling expenses on first appointment, are obtainable from Miss J. Lloyd, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Registrar, University of Natal, King George V Avenue, Durban, 4001, South Africa, with whom applications, on the prescribed form, must be lodged not later than 30th October, 1981, quoting reference PMB 63/61. Miss Lloyd's telephone no. is 01-242 1766 or 02-406 5534. H10

UNIVERSITY OF CAPE TOWN

LECTURUR
In Quantitative Methods

Applications are invited from suitably qualified persons, for the above post in the Department of Business Science, vacant as from 1st February 1982.
Applicants should have good academic qualifications in Statistics, Marketing Research, Operational Research and Computer Science, as well as relevant experience in teaching and/or business. The person appointed will be expected to undertake the teaching of Statistics, and Marketing Research or Operational Research to undergraduate students in Business Science and to be able to assist with the running of computer-based simulations and business games which form a significant part of the teaching of the Department.
Appointment will be made in accordance with qualifications and experience on the salary scale R10 000 - R75 - R14 370 - R10 - R18 230 per annum. In addition a service bonus of nearly one month's salary is payable annually.
Applicants should submit a full curriculum vitae, stating age, present salary, relevant business or teaching experience, research interests and publications, when available to assume duty, and the names and addresses of three referees.
Further information should be obtained from the Registrar, Institution: Appointments Office, University of Cape Town, Rondebosch, 7700, by whom applications (enclosing cv, no. 1/1) must be received not later than 31st October 1981.
The University's policy is not to discriminate in the appointment of staff on the grounds of sex, race or religion. Further information on the implementation of this policy is obtainable from the Registrar. H10

Librarians

NEWCASTLE UPON TYNE
UNIVERSITY OF
UNIVERSITY LIBRARY
ASSISTANT LIBRARIAN

Applications are invited for a post of Assistant Librarian in the University Library vacating on 1st February 1982. Applicants should be graduates with professional qualifications and some years' experience in a university or other library. The successful applicant will be closely associated with the University Library's services in engineering.
Salary will be at an appropriate point according to age, qualifications and experience on the Grade 1A scale: £6,070 - £19,680.
Further particulars may be obtained from the Deputy Registrar (P.O. Box 1), The University, 1, Kensington Terrace, Newcastle upon Tyne NE1 7RU, with whom applications (a copy together with the names and addresses of 3 referees, should be lodged not later than 1st October 1981. Please quote reference 7HE5. H10

Grants

SHEFFIELD
JAPAN FOUNDATION
ENDOWMENT COMMITTEE
Grants for Teaching and Research

The annual income from a donation made by the Japan Foundation is available for the support of the U.K.C. for the promotion of Japanese Studies in University institutions in the U.K. and administered by the University of Sheffield.
Further particulars and application forms are obtainable from the Academic Secretary, Office of the University, Sheffield S10 2TN to whom applications should be sent by 31 October 1981. Quota 50. R63/4/01

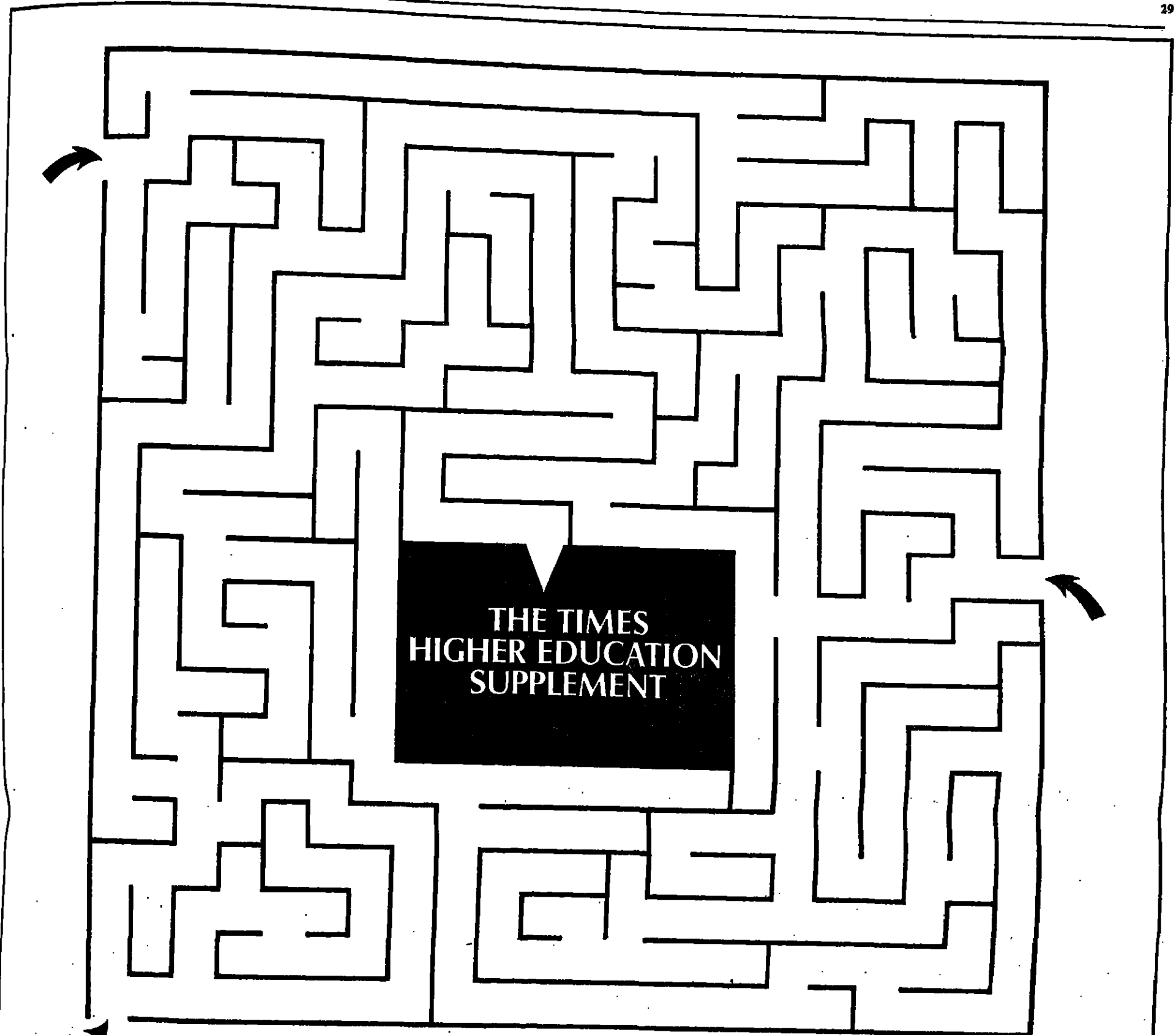
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Don's diary

Saturday

Wake up feeling exhausted. Arrived home at midnight following a seven-week research trip to Finland. Unfortunately our three small children are wide awake and excited to see me. I am home, so there is no chance of further sleep. We rise to the spectre of unpacking. A quick glance out of the window confirms my worst fears about the garden. Fortunately by the time we return from an urgent shopping expedition it has started to rain, so I can leave the grass with a clear conscience. In the afternoon we visit our allotment. The vegetables are scarcely visible, submerged in a sea of extremely vigorous-looking weeds. Will the efforts of earlier weeks prove entirely wasted?

Later I begin to wonder about the department and university. Having left the country before the details of the UGC letter were known, I feel strangely out of touch. Working on the tranquil lakes in Finland, such matters seemed distant and of little immediate concern; in the grey of a rainy Leicestershire evening they take on a rather different complexion. Could I really lose my job?

Sunday

The morning dawns bright and clear, no excuse today. I lug out my ancient hand mower and tackle the front lawn. The heavy dew almost thwarts my efforts, but eventually I cut off the worst, rake it away and leave the rest to dry in the sun. Feeling righteous I also tackle a particularly amazonian border. By evening the sun-dried grass is ready for a second cutting. A nagging doubt in the back of my mind remains as to whether an ecologist should practise such violation of nature but, no sentimentalism. I shrug it aside and achieve the essential close-cropped effect. The physical work in the hot sun has left little time for contemplation of the uncertainties of tenure, but I retire (to bed) with a faint anxiety about the tidings I will hear in the department tomorrow.

Monday

Set off early to work with a feeling of anticipation. This is quickly dissipated when I find the building deserted but in a chaotic state as a new heating system is being installed. Frustrated by the lack of persons with whom to discuss the events of the summer I settle down to sort the accumulated post. This occupies a couple of hours quite pleasantly. At last some discussion of the burning issue. The news is good, although strangely flat; our university has been fortunate; relatively small adjustment in student numbers; relatively small decrease in budget. But a cloud lurks on the horizon: the UGC letter contained an oblique comment to one of my degree courses. Interpretation is unclear but it seems that the future development of the course will have to be re-orientated. No talk of redundancies. In the afternoon I visit the library, a fine new building opened only last year which belies the depression in the university sector. A quick scan through the new books and journals and then I settle down with back issues of *The Times*. As I pick up the threads the full magnitude of the cuts comes home in stark reality. I look through the "abstracts" from letters to the various institutions. The biological sciences appear to have been substantially cut, with a number of courses to be "phased out". I think of the people I know in these departments, good friends some, making excellent contributions to their subject. Many of those who will now lose their jobs are more stimulating teachers, more innovative researchers than others elsewhere who are secure.

I ponder the logic behind the decisions of the committee but they prove imponderable. Judging from reactions in the columns I scan

through others have had the same difficulty. Surely the bitterness inevitably created by such measures is heightened when the rationale underlying the decisions is so obscure?

Tuesday

Early to work again with good resolutions. First business is to sort out a clash on the timetable for next term. Surprisingly this is quickly resolved in a highly satisfactory way leaving me with one free day in the week. I settle down with the proofs of a paper, long overdue because of my stay abroad. Remarkably little to correct in the proofs and I make rapid progress.

Wednesday

The new term is sufficiently distant to blur the courses that still need to be prepared. With a summer of research behind me and a clear blue sky through the window I decide to spend the day at home. Much progress is made in the garden and various domestic tasks accomplished. At the end of the day I probably feel a greater sense of achievement than a day at work would have given.

Thursday

Again I put off my commitments to the term, and spend the morning working through a manuscript from a colleague in Finland. He wants my comments and a revision of the language. I have done a lot of language revision of scientific papers, yet my increasing experience brings a greater depth of awareness to the task which makes it harder rather than more straightforward. It is easy to alter a manuscript to a grammatically correct state, difficult to resist the temptation to rephrase and edit to produce a more concise version but one which no longer reflects the style of the true author.

Over lunch I debate Brearley's decision to put the Australians in to bat in the last test. Most imponderable decisions be accepted in all facets of life?

In the afternoon I arrange to attend a local meeting of freshwater biologists, and wonder how such meetings and other activities will be affected by the cuts. How does one actively pursue research in a department which is being "phased out"? What tensions will be present between those who are being "cut" and those who are not? Does the threat of redundancy stimulate or suffocate activity?

Friday

Today starts badly with a parking ticket, although the traffic warden does not fit the popular image. Later I assuage my feelings in the squash court, followed by lunch in the bar. The afternoon is taken up by a discussion with the acting head of department on the nature of the changes we are to implement in the undergraduate course. It will be no easy task. We all have different ideas, some strongly held. Somehow they will have to be meshed together to create a coherent entity which will satisfy all. The time scale is alarmingly short, but if the incentive is strong enough much can be achieved.

In the evening, as I clear the woods from my stunted cauliflower, I look back over a week of little real achievement, a week for adjustment from one pattern of working to another. The future will clearly require considerable and abrupt adjustment. The axe has fallen too suddenly; universities, like gardens, should not be left unattended if they are to be productive.

R. I. Jones

The author is lecturer in ecology at Loughborough University of Technology.

Last week I paid my first visit to a hypermarket. For the sake of the six other citizens who until now have not known what the word means, let me explain that a hypermarket is a very large metal barn, within which there are for sale most of the goods usually provided by an entire High Street: food of all descriptions, clothes for both sexes, furniture, garden equipment, building and decorating supplies, electrical goods and much other merchandise.

Outside a car park occupies several acres and offers ample quantities of shopping trolleys of a size into which can be loaded all the needs of a family of 12 for a month, together with several of its more junior members. In contrast to a shopping centre or mall, the whole operation is under one management.

Shopping is shopping, and not something to get carried away about. Anyone in whose consciousness there knock around ideas about commodity fetishism, the contrast between North and South, motivational research, the problems of three million unemployed and the state of his or her own bank balance can scarcely be expected to comment upon with favour, let alone enjoy, the weekly or twice weekly stint with the list and the trolley.

There was plenty of room in the hypermarket, and thus the close attention normally required for trolley steering in the local store (which on Friday evening demands many of the qualities of manual dexterity, nerve and insensitivity called for in negotiating Hyde Park Corner on a bicycle) could be relaxed. There was time to look around and see what was going on.

The most noticeable feature of the place was its sheer efficiency. Gaps on the shelves were quickly filled. Machines printed instant labels with the cost per pound, the quantity and the price. Date of sale requirements appeared to be meticulously observed. There were plenty of staff on hand to offer help and advice.

They know their job, and their attitude was friendly rather than obsequious or patronizing. The restaurant was amazingly clean, offered a varied menu and charged reasonable prices. Despite it being Saturday morning and the fullness of the car park, there were no queues at the check outs, any of which were open for business. Cheques

Side-stepping Mussolini's mistakes



William Taylor

and credit cards presented no problems.

Efficiency is not, of course, everything. That Mussolini made the trains run on time has become a metaphor for every situation in which efficiency and inhumanity are seen to go together. In some circles, such inhumanity has given a bad name to efficiency of all kinds, evidence of which is felt to conceal an unadmitted motive or suspect outcome. Worse still, just an authenticity today is somehow associated with lack of commitment, rather than with embracing a worth-while cause, so lack of efficiency seems to constitute a *prima facie* case for an individual being more interesting, complex, creative and altogether more human.

There is an important germ of truth in this response, especially in education. Those who strive to give a surface impression of efficiency are often concealing some worrying forms of ineffectiveness. Efficiency has to do with form, rather than substance, and it is the latter that matters in academe. That the smooth but empty lecture is worse than the significant but rough one is obvious enough. But when this is so over-emphasized as to lend a virtue to

confusion and unpreparedness, then something has gone wrong somewhere.

I suspect that our attitudes to efficiency are affected not only by our cultural history, but also by the difficulty that a class conscious society has in adjusting to the imperatives of a service-based economy. As a child I learned to associate the word "service" with employment as a cook, maid or other kind of servant. To be "in service" was the fate of my unmarried women, and not merely those from working class families. Service implied low status and inferiority. Some of these outdated associations seem to have stuck.

To derive satisfaction from being served by someone who really knows his or her job, and to try to offer that same quality of service to those with whom and for whom one's work is performed, is not really incompatible with a commitment to social justice. Self protection may require that routine rudeness and inefficiency be labelled as trivial, but such trivialization can become all pervasive.

In all this first impressions can be crucial. Tens of thousands of students arrive for the first time next week at the doors of 44 universities, 30 polytechnics and many hundreds of institutions of higher, further and adult education.

Not doubt registrars and finance officers are at this moment trying to work out how to improve the welcome they will receive, how to shorten the registration and grant cheque queues, how to ensure that everyone knows where to go and what they have to do, where they need the information they need and the people they want to see.

Efficient, friendly reception arrangements in college, hall of residence, faculty and department may not be the most important current task in the world of higher education beset by problems of resources, redundancy and diminished educational opportunity. The old dicta about looking after the little things and taking care of the pennies have a morally complex and sophisticated society become sentimentalized and lost much of their force. Yet they are a lot of people next week whom an efficient, friendly, warm welcome can be very important for a few days - and perhaps for very much longer than that.

But even worse, Dr Boyson seems to be trying to justify Government economies on the basis of his interpretation of the figures. I quote from his September 3 speech.

"With the current cost of research equipment on the science and technology side and also the cost of libraries if they are going to be kept up to date with research papers being a country the size of Britain can fund 44, or even 45, institutions each attempting to provide courses in almost all subjects at a world level."

Does Dr Boyson really believe that Avery Hill College or Winchester School of Art are attempting to provide as many courses, or to keep up to date with research in as many subjects as Manchester, Oxford, or Bristol University? Or is this yet more sloppy speech writing? Whatever, do we really trust the under-secretary or the department to plan the future of HE competently?

AUDREY SEGAL,
29 Heathurst Road,
London, NW3.

National body

Sir, - Thank you for your perceptive editorial "winning polytechnic hearts". The local authorities might well say that they are battling at the moment for the survival of the very essence of local government. That is probably true but if they cannot spare time and effort or muster leadership on behalf of the polytechnics and higher education colleges, then they must be Model B. In spite of what Mr. Nuttgens has to say there are many many in polytechnics and colleges (not necessarily at principal and senior level) who would need a good deal of convincing and reassurance before throwing overboard the great authority connection. The great pity is, as you point out, that those who support the I.E.A.s and those who are wavering are left in limbo while the I.E.A.s whistle in the dark. The CLEA consultative document does not help. It is the worst sort of lie to read that document and to conclude that colleges are quite unnecessary adjuncts for the system that is being sought.

We believe that there are cogent philosophical educational and political arguments against the establishment of a central body directly responsible to the Secretary of State set up with the express intention of reducing expenditure and to control and direct a sector of which it is held that "its key contribution lies in its provision of courses specifically designed to reflect the trends and requirements of the country's employment market" (Government Green Paper). We believe that the local authorities should both take their institutions into their confidence and enlist their help to propose an alternative workable and satisfying model for the development of institutions that have already proved their worth and that have a key role to play in the rejuvenation of society and of the economy. That means taking Model A, modifying it substantially and doing an effective selling job. Will leaders please step forward?

Yours faithfully,
GEORGE TOLLEY,
Principal, Sheffield City Polytechnic.
DEREK G. LYNE,
Director, Bedford College of Higher Education.

Dr Boyson's wrong number

Sir, - For someone who is so hot on standards, Dr Boyson has been singularly weak lately in counting the number of HE institutions where it is possible to take a degree course - "guilty of journalistic oversimplification" is what the DES press office admits to.

Dr Boyson has been claiming, first in the House (on July 23 at 2.17 am), then in a speech at the fifth international conference on higher education at Lancaster University (September 3) that it is possible to read for a degree at 396 "other institutions".

Dr Boyson is confusing institutions where it is possible to get a degree with institutions which provide so-called "advanced" courses. Paragraph two of the Government's own Green Paper spells out the definition:

"Higher education is commonly equated with degree courses. Outside the universities it has a far broader meaning and covers any course... of a standard higher than GCE A level. It thus embraces research, degree-level courses, higher diploma and higher certificate courses and courses leading to a wide variety of professional qualifications... In this sense higher education is offered in 396 institutions outside the universities."

It is, granted, difficult to be precise about the exact number of institutions where it is possible to read for a degree, especially as the DES's own list still includes institutions which have now closed, or amalgamated with others, but the total is certainly no more than 160 and probably fewer - which means Dr Boyson is grossly exaggerating.

But even worse, Dr Boyson seems to be trying to justify Government economies on the basis of his interpretation of the figures. I quote from his September 3 speech.

"With the current cost of research equipment on the science and technology side and also the cost of libraries if they are going to be kept up to date with research papers being a country the size of Britain can fund 44, or even 45, institutions each attempting to provide courses in almost all subjects at a world level."

Does Dr Boyson really believe that Avery Hill College or Winchester School of Art are attempting to provide as many courses, or to keep up to date with research in as many subjects as Manchester, Oxford, or Bristol University? Or is this yet more sloppy speech writing? Whatever, do we really trust the under-secretary or the department to plan the future of HE competently?

AUDREY SEGAL,
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London, NW3.

National body

Sir, - Thank you for your perceptive editorial "winning polytechnic hearts". The local authorities might well say that they are battling at the moment for the survival of the very essence of local government. That is probably true but if they cannot spare time and effort or muster leadership on behalf of the polytechnics and higher education colleges, then they must be Model B. In spite of what Mr. Nuttgens has to say there are many many in polytechnics and colleges (not necessarily at principal and senior level) who would need a good deal of convincing and reassurance before throwing overboard the great authority connection. The great pity is, as you point out, that those who support the I.E.A.s and those who are wavering are left in limbo while the I.E.A.s whistle in the dark. The CLEA consultative document does not help. It is the worst sort of lie to read that document and to conclude that colleges are quite unnecessary adjuncts for the system that is being sought.

We believe that there are cogent philosophical educational and political arguments against the establishment of a central body directly responsible to the Secretary of State set up with the express intention of reducing expenditure and to control and direct a sector of which it is held that "its key contribution lies in its provision of courses specifically designed to reflect the trends and requirements of the country's employment market" (Government Green Paper). We believe that the local authorities should both take their institutions into their confidence and enlist their help to propose an alternative workable and satisfying model for the development of institutions that have already proved their worth and that have a key role to play in the rejuvenation of society and of the economy. That means taking Model A, modifying it substantially and doing an effective selling job. Will leaders please step forward?

Yours faithfully,
GEORGE TOLLEY,
Principal, Sheffield City Polytechnic.
DEREK G. LYNE,
Director, Bedford College of Higher Education.

LETTERS TO THE EDITOR

The student-consumer interest in university funding

Sir, - Your leader of September 11 thinks my name with what you call "spurious charges" against the UGC. My speech made no charges, spurious or otherwise, but opened out for discussion whether what you call the "student-consumer" interest should exercise greater, perhaps, of public expenditure over the allocation of teaching function within the university system.

Somewhat magisterially you support the view that the task of bringing into balance, as far as is practicable, the interests of student-consumers and employer-consumers is best achieved by giving the greatest weight to the judgments of a hard-pressed part-time committee. My view is that the judgment of students should be given greater weight than at present. They make the major investment of three or

four years of their lives and their future prospects when drawing on a wealth of inside information in their schools and among their own generation and with the benefit of advice from their parents.

It cannot have escaped your notice that the consumer-employer interest in this country is far from universally content with the allocative pattern proposed by the UGC. Additionally, although a shift in emphasis of the kind I suggest need not produce what you call an "American solution" there is evidence that the employer-interest there is more satisfied with their system than it is here with ours.

I agree, and emphasized in my speech, that there are many problems to resolve before the shift in emphasis I have suggested could be implemented. One such is the mechanism by which grants to stu-

dents would be allocated. In applauding your opposition to the UGC's restrictive student targets, I would suggest to you that if government had direct responsibility for determining the number of students who could enter the universities at public or part-public expense, the Robbins principle would be more secure than it is now. I detect that you already recognize this but that, out of fear of increasing further government's direct influence over the universities, you are unwilling to consider new mechanisms which would make visible that responsibility for student numbers lies, and must lie, with government. Strengthening the influence of student-consumers could provide the countervailing power necessary to allay such fears.

Yours faithfully,
KENNETH ALEXANDER,
Principal, University of Stirling.

Girls and maths

Sir, - An association of people concerned about the underachievement of girls in mathematics has recently been formed. GAMMA, (Girls and Maths Association) was inaugurated at a meeting held at the Ladbroke Mathematics Centre in London, on May 9. The meeting was attended by people ranging from those involved in pre-school, primary and secondary education, to those involved in teacher training, further and higher education generally, and educational research.

It was agreed to set up working groups initially in the following areas: a) pre-school and primary mathematics; b) teacher training; c) resource packs for teachers and d) sexism in mathematical schemes.

Membership of GAMMA is open to women and men and anyone who would like to join the group is asked to send £1.00 subscription to Susan Wright at the address given. Members will receive information about the group's activities and future meetings through a newsletter.

We should also be most grateful to receive any information readers may have under the following headings: 1) information about any projects, investigations or research already being carried out in these areas; 2) titles of relevant articles, books or other writings, as we hope to produce a comprehensive bibliography; and 3) information from any one who has experience of secondary schools where girls do achieve consistently well in mathematics.

Yours sincerely,
ZELDA ISAACSON,
SUSAN WRIGHT,
JUDITH EKINS,
SHEILA RUSSELL,
School of Education and Dept of Teaching Studies, Polytechnic of North London,
Prince of Wales Road,
London NW5 3LB.

necessary adjuncts for the system that is being sought. We believe that there are cogent philosophical educational and political arguments against the establishment of a central body directly responsible to the Secretary of State set up with the express intention of reducing expenditure and to control and direct a sector of which it is held that "its key contribution lies in its provision of courses specifically designed to reflect the trends and requirements of the country's employment market" (Government Green Paper). We believe that the local authorities should both take their institutions into their confidence and enlist their help to propose an alternative workable and satisfying model for the development of institutions that have already proved their worth and that have a key role to play in the rejuvenation of society and of the economy. That means taking Model A, modifying it substantially and doing an effective selling job. Will leaders please step forward?

Yours faithfully,
GEORGE TOLLEY,
Principal, Sheffield City Polytechnic.
DEREK G. LYNE,
Director, Bedford College of Higher Education.

made aware of the criteria used in this exercise. In the absence of published information and in view of the lack of recent visits by the UGC to many university departments, we are left to presume that one of the main criteria used in the assessment was the average A level score for each course. This device is, of course, nothing more than a measure of current popularity of subjects and courses amongst 17 and 18-year-olds.

Given that savage cuts are to be imposed by the present Government, it would be reasonable to expect the status of higher education establishments rather than undermining confidence in certain areas without presenting reasons. If there is to be selectivity in the cuts, it is essential for the future of every British university that the criteria used are made public knowledge.

Yours faithfully,
JOHN OAKLAND,
Lecturer, University of Bradford.

University status

Sir, - I am very concerned about the way that the UGC's action will have on the standing of British universities here and throughout the world. Surely, one of the major attributes of our higher education system was the recognition at home and abroad that degrees from all universities in this country were academically equivalent, or at least that we endeavoured to ensure this status. The UGC has now publicly announced that this is not so. Even if one is prepared to accept that there was a certain pecking order there has still been a disproportionate treatment of the less favoured universities.

Bradford is one of the universities which have been invited to increase student numbers in management and business studies. The creation of centres of excellence and the destruction of the equivalent standard would perhaps be acceptable if we and our colleagues overseas were

for these reasons senate and council endorsed such plans. In the light of this one must be sceptical about your report in the same issue that some universities are intending compulsory redundancies. Obviously, those self-same senates which sprang so readily into action when the UGC letters arrived are once more mobilizing their political skills and are shrewdly exploiting the media. The Government and the UGC are clearly being outclassed and have seriously underestimated the solidarity and determination of institutions which still believe in academic freedom, the protection of minority groups, and principles. Be assured that monetarist dogmas which unnecessarily provoke social costs, personal animosities and bitterness, and violence in cities, are increasingly under attack and that the "I'm all right, Jack" attitude is one which staff in universities like Aston properly ascribe to lesser mortals without moral scruples.

Yours faithfully,
GEORGE POPHAM,
Political and Economic Studies Group, Aston University.

It is not difficult to see how an error was made in your report when one considers the ridiculous nature and circumstances of the case brought against Miss Cvrckova. The trial is clearly an excuse to punish an innocent individual connected with Poland, and to set a stern example for Czechs tempted by the Polish "renewal". We naturally wish to protest most strongly at this latest infringement of civil rights, and at the Czech authorities' blatant refusal to comply with the due process of law.

Yours sincerely,
PETER GOLIKOWSKI,
12 Marborough Crescent, London W4 1HF.

tion that a properly designed management scheme for both records and archives (that is for current records systems as well as for non-current documents) should pay for itself in terms of the elimination of waste and the reliable retrieval of information. What is required is that records management should be the responsibility of an administrator, preferably one with some knowledge of the subject, and should not continue as a great neglected area in your university administration.

Yours faithfully,
MICHAEL COOK,
Archivist, University of Liverpool.

This was publicly demonstrated for the first time last Wednesday, following a meeting of Ada Language UK Ltd. at York. The compiler project is funded by the UK Science and Engineering Research Council.

Yours sincerely,
IAN PYLE,
Professor of Computer Science, York University.

The Ada language
Sir, - Allow me to correct some mistakes in the article "For the love of Ada" (*THESE*, September 18). The Ada language was designed by a French-English-German team including myself and others at York. The team was brilliantly led by a Frenchman, Jean Ichbiah.

My department at York is designing a compiler for Ada, which translates texts from Ada to machine language. This was publicly demonstrated for the first time last Wednesday, following a meeting of Ada Language UK Ltd. at York. The compiler project is funded by the UK Science and Engineering Research Council.

Yours sincerely,
IAN PYLE,
Professor of Computer Science, York University.

Equality among teachers

Sir, - I am astonished to find that it is still implied by some people (*THESE*, September 11) that a primary teacher need not be as academically well qualified as a secondary one.

When I took my BED eight years ago it was as a graduate student at university for a year after three years gaining my CertEd at a college of Education.

My training was as an infants teacher by choice. I was much angered by the people who remarked, on discovering I was to go to a university for my fourth year, "You'll be teaching secondary now, I suppose." The implication was then, as it appears to be now, that only secondary teachers need the stimulus of academic study.

Study at university does not guarantee expertise as a teacher, nor does teacher training alone produce a teacher with depth as well as breadth of knowledge. The combination of the two is as vital in the primary sector as any other. Indeed, probably more so if teachers are to cater for children's great capacity for learning in those vital formative years.

What the BED produces is teachers with sufficient practical training to do the job well, breadth of knowledge to cover a wide curriculum if they enter primary teaching, and academic knowledge and fulfilment in one or two subjects to enable them to teach them at secondary level or add to a school's pool of expertise at primary level.

Teaching all ages requires enthusiasm and discipline, as well as academic knowledge and in no way should a class structure be allowed to form in the training of teachers. Yours faithfully,
POLLY BIRD,
18 Crawthorn Grove,
London SE22 9AB

Czech Trial

Sir, - I am writing to you as President of the Association of Polish Students and Graduates in Great Britain, to draw your attention to an error in your report on the forthcoming trial of Miss Lenka Cvrckova in Czechoslovakia (*THESE*, August 28).

The facts are as follows. Miss Cvrckova was originally indicted under an article of the penal code relating to passport offences. Charges were then added under article 98 (subverting the Czech People's Republic) and article 99 (behaviour hostile to an allied socialist state). The trial was scheduled for August 7. Before the case came to court, the prosecutor dropped the major charges, leaving only that of passport offences. After a hearing lasting a few hours, she was acquitted. The prosecutor, however, lodged an appeal against acquittal and Miss Cvrckova was sent back to prison to await further trial.

It is not difficult to see how an error was made in your report when one considers the ridiculous nature and circumstances of the case brought against Miss Cvrckova. The trial is clearly an excuse to punish an innocent individual connected with Poland, and to set a stern example for Czechs tempted by the Polish "renewal". We naturally wish to protest most strongly at this latest infringement of civil rights, and at the Czech authorities' blatant refusal to comply with the due process of law.

Yours sincerely,
PETER GOLIKOWSKI,
12 Marborough Crescent, London W4 1HF.

Professor Halsey

Sir, - I'm sorry to see that Professor Halsey's term on the Social Science Research Council has not been renewed. His wisdom and experience will undoubtedly be missed in the coming difficult months. Yours sincerely,
MARGARET STACEY,
Department of Sociology, University of Warwick.

Labour pledges to penalize the elitists

by David Jobbins

The threat to universities and colleges which draw heavily on the public schools for their students grew this week.

The Labour Party conference in Brighton overwhelmingly backed a plan of action to cripple and eventually abolish private education in this country which included a pledge that the next Labour Government would cut grants to universities and colleges which have a "disproportionate" number of home students from the private sector.

The programme was drawn up by the TUC-Labour Party liaison committee and already has the support of the national executive and the TUC general council.

At the top of the hit-list are Oxford and Cambridge, where the TUC and Labour Party says that former private school pupils occupy half the student places.

Six per cent of pupils attend private schools but take up 25 per cent of all university places, they add.

The policy document was carried by 7,019,000 votes to 7,000 on a card vote called for by Labour education spokesman Mr Neil Kinnock in an attempt to ensure that the commitment appears in the next manifesto.

But privately party leaders believe that the attack on certain universities will not be carried through, preferring instead to rely on a massive expansion of further and higher education.

Conference laid the groundwork for the expansion plan by carrying unanimously a resolution stating that further and higher education should be made more responsive to the needs of the community to draw in

more women, members of ethnic minorities and mature students.

It also called for an end to the binary divide, rejected Government plans for "nationalization" of public sector higher education, and pressed the next Labour Government to end full-cost fees for overseas students.

Mr John Boothman, of the National Organization of Labour Students, called on delegates to condemn the Government for betraying the Robbins principle which all parties had up to now adopted.

"It is simply not enough for us to condemn the cuts. We have to restate the principles we believe our educational policy should be founded on."

"We must ensure above all the next Secretary of State for Education carries out these policies. In the past we have said fine words but have never been able to ensure the Secretary of State in a Labour Government carries them out."

He called for action to increase the number of working class students entering further the higher education. "The ratio has not changed since the second World War," he said.

At a fringe meeting organized by the Socialist Education Association, education spokesman Mr Philip Whitehead, Labour MP for Derby North, argued that in exchange for helping the universities in their fight against the cuts they should become "much more community-related open door institutions."

Unless they did so, they were failing to provide the sort of further and higher education the Labour Party wanted to see.

'Black youths losing out on apprenticeships'

Claims by employers that youngsters from ethnic minorities lack relevant qualifications to obtain apprenticeships have no foundation, according to an Aston University study published this week by the Commission for Racial Equality.

The study, in *Search of a Skill - Ethnic minority Youth and Apprenticeships* by Gloria Lee and John French, encompassed an intensive interview programme with employers, trade unions and officials in the Birmingham area while following the progress of pupils who left four inner-city schools.

The researchers' study of fifth-form boys showed that in terms of subjects taken, especially maths and English, ethnic minority boys were just as likely to be offering these and had the same success rate in examinations as their white counterparts.

"Our evidence therefore suggests that lack of success in obtaining craft apprenticeships cannot be blamed on poorer educational achievement by ethnic minority boys, especially in view of the fact that 20 per cent of the boys who gained such apprenticeships had not taken any examinations, and that these were mainly

white boys," the researchers say. "The study argues that failure to obtain apprenticeships arises in the main from indirect discrimination through established practices such as the selective use of 'catchment areas' and the concentration on particular 'good' schools. It also stems from ethnic minority youngsters' lack of effective informal contacts in firms through which they can learn of job opportunities."

As a result the study says these youngsters tend to be over-reliant on the careers service to their detriment, since this is often regarded by many employers, especially in engineering, as a "second best" method in recruiting new employees.

The study recommends that the careers service should continue and develop its work towards closer links with industry to ensure that the school leaver sent by them for jobs to meet the requirements of employers.

But above all it advocates that employers and trade unions as well as schools should do a great deal more to inform youngsters about job opportunities and requirements and take positive steps to avoid indirect discrimination.

OU bids for power in the Open Tech

A strong bid for a major role in the Open Tech programme came this week from the Open University.

It told the Manpower Services Commission that its experience of distance teaching should be fully exploited through a contract with its Centre for Continuing Education.

The centre would create and distribute course materials as well as take full responsibility for retraining graduates and well-qualified technicians.

The OU was responding to the MSC's proposals to expand technical training and retraining for adults. It welcomed the overall plan, but said it must be accompanied by sound planning and control, realistic levels of resources and an effective machinery for the development of services ranging from information to certification.

It was concerned that the proposed central co-ordinating unit lack-

ed the "bite" needed to achieve a national reputation. It urged that the unit should have the specific authority to plan and direct the programme and said that the need for an Open Tech was so urgent that there was little case for a five-year testing period.

"While falling short of an Open University analogue, such a strong and decisive controlling body would seem, from experience, to be the most likely structure to generate the impetus which is required," it said.

The university backed the strong emphasis on collaboration and said that joint approaches would be 'important in advisory and preparatory services, creating materials, providing student support round the country and credit transfer arrangements.'

Study methods should mix face-to-face teaching with distance learning. "It is our contention that distance



MP Neil Kinnock presses for a manifesto commitment to the young. Kinnock says 'sky's the limit'

A clear manifesto commitment to give young workers a right to further education was called for by Labour education spokesman Mr Neil Kinnock.

Conference carried on a card vote a resolution setting out proposals for a unified, universal comprehensive and continuing system of system of education, training and employment for the 16-19 age group, with an adequate minimum wage for all. Voting was 6,992,000 to 8,000.

It will now be considered by the joint meeting of the party's national executive and the Parliamentary Labour Party which drafts the manifesto.

Mr Kinnock told delegates he wanted a policy "from which there can be no retreat, no deviation."

"The sky must be the only limit in this process," he told conference.

He admitted the scheme would be expensive, but it was not a choice between spending and not spending.

Crossing the air waves

American broadcasters will soon be able to boast a new qualification to set them apart from their colleagues: a diploma from Goldsmiths' College, London.

A novel collaborative project will bring a small group of graduates from New York University's Institute of Film and Television together with a number of British students for a programme of practical and theoretical study. The course will be angled towards the training of broadcasters for United States stations.

When the course is finished it is hoped that some Goldsmiths' students will return to New York to join their American counterparts for a further year of training at the university. Staff will also be exchanged, beginning with the arrival of a lecturer from NYU at Goldsmiths' this month.

Between six and 12 students will take part in the scheme, the majority of whom will be American. The remainder will be from the college or graduates of other university film and television courses.

British broadcasting organizations are being approached for attachments in an attempt to model the course along American lines. The course will draw on the traditions of both countries.

Fewer jobs for graduates

Fewer home university graduates and fewer higher degree home graduates are finding permanent jobs in the United Kingdom.

The *Details of First Destinations of University Graduates, 1979-80*, published by the Universities' Statistical Record, show that for the first time in recent years there have been decreases in both categories.

In 1979-80 51.6 per cent home first degree graduates entered permanent home employment, compared with 53.9 per cent the previous year. According to the USR this is the first decrease in recent times.

The decreases have been in public service employment, industry and other employers (those which do not fit readily into categories, or where the employer is not known).

The percentage also fell for the first time in recent years for higher degree graduates, to 44 per cent (45.3 per cent the previous year).

The number of home graduates believed to be unemployed was 5,043, which was nine per cent, compared with 2,808, 5.2 per cent.

School leavers get chance of advanced YOP project

Seven higher level youth unemployment training courses are to be launched in the north of England during the next two months.

The Youth Opportunities Programme pilot scheme will involve around 140 young people with GCSEs or CSEs on one-year training courses.

The courses will offer job training and work experience in industry or commerce, with the chance of further study at colleges of further education on block and day release for relevant qualifications.

"This is the process of turning five," a spokesman from the Manpower Services Commission, which sponsors YOP, said. "In approving new schemes, we have been more specific about the elements we want to see and persuading employers to have day release and further education included."

The first of the courses has already got off the ground at Vickers Elswick Works in Newcastle where 51 place are on offer to 16-18 year olds, wanting to train for the en-

Workers' control urged

by Robin McKie

Science Correspondent

The lessons of workers' control must be applied to science and technological laboratories in the next Labour Government if it is to become more socially acceptable, warned Professor Rose of the Open University's technology department, this week.

Speaking at a Labour Party conference fringe meeting in Brighton, "A Science Policy for Labour", Professor Rose said it was also important to avert local community suspicion about the alien and dangerous nature of laboratory science. Grass roots level this means structures whereby the control of the laboratory, but with the labour open also to the local community and trade unions to play a role in planning directions.

At central levels the various search councils and government scientific advisory boards must democratically represent the community and the Parliamentary Labour Party which drafts the manifesto.

At present the control of the 2 per cent of the Gross National Product which goes on scientific research and development lay in the hands of managers, the military and state committees. "For example, since the difficulty in challenging the bureaucratic and arbitrary nature of UGC decisions on university of said Professor Rose.

He added that any such strategy which failed to take account of the vast sums spent on research and convert them into socially useful ends was doomed to failure. It was particularly vital to address urgent problems such as the development of non-polluting and non-hazardous renewable energy and self-sustaining agriculture and food industries.

Professor Rose believed science and technology were over-represented in the interests of a narrowly-conceived "pure research" for short-term profitable application in industry, or for the defence of weapons. "We can no longer believe in the naive optimism that assumes that all scientific and technological developments are automatically beneficial, or that scientific will flow automatically from the 'heart' of the scientific and technological revolution."

A socialist Britain was only possible based on technological change. "If we fail to control technology, we face disaster. To survive we must resolve this paradox," he concluded.

Spending cuts put safety at risk

by Ngaio Crequer

The University Grants Committee has reiterated its concern that major replacement of essential services, demanded to comply with health and safety legislation, is being deferred because of spending cutbacks.

It has also said the universities do not have sufficient money to maintain new or replace existing equipment in laboratories, or to service them, even though student numbers have increased.

This grim view, contained in the UGC's academic survey for 1979-80, says that universities will now have to find "new and unprecedented solutions" to their problems.

The UGC said it commissioned the survey to find out what resources were needed to keep the whole university estate in use.

It issued a report last year which showed that, "... at constant prices a total of £285m was estimated to be needed during the next five years (for maintenance and minor works), an increase of £95m over what had been spent in the previous five years."

This was necessary, the survey said, in order to comply with legislation such as the Health and Safety at Work and the Fire Precaution Acts, and long-term maintenance arrears such as replacement of flat roofs, electric services and boilers which had been installed for more than 20 years.

Almost three-quarters of the total floor area of the universities had been built since the war, the majority in the 1960s and ... with the decline in both capital and recurrent resources there is evidence of these major replacements being unduly deferred or being carried out at the expense of day-to-day maintenance.

"In conveying the report to universities the committee made it clear that it well understood that safeguarding accommodation stock and ensuring its effective use was only

one of many areas of university activity competing for scarce resources. However they hoped that the report would help universities to identify their problems in the area with greater clarity," it said.

The other problem was in keeping up-to-date equipment. "Since the OPEC crisis of the early 1970s the monies available for new equipment and the replacement of existing equipment have been below the level needed to sustain the present inventory, and departmental maintenance and running expenditure in the laboratory subjects was in real terms 86 per cent of what it had been in 1971-72 notwithstanding the increase in student numbers."

"Hence although in times of national retrenchment universities might have been expected to have taken any one of these problems in their stride, the cumulative effect of all of them (falling resources, and changes in overseas student policy) operating simultaneously means that new and unprecedented solutions have to be found."

According to the UGC report, it is the university's prime responsibility to seek solutions to their own problems. The UGC can only give advice based on its view of the whole system.

Although no provision was made in 1980-81 for the support of student residence places, the number of students in university-owned residence increased from 130,426 (45.9 per cent of total student numbers) in 1978 to 135,828 (46.7 per cent) in 1979 because of previous programmes coming to fruition.

University replies to a questionnaire showed that "a very few universities now had serious problems in accommodating students at the beginning of the academic year." *University Grants Committee, Annual Survey, academic year 1979-80. Published by Her Majesty's Stationery Office, price £2.30 net. Cmnd. 8359.*

Left Group urges Labour to abolish 'elite' UGC

The University Staffs Left Group has called upon the Labour Party to abolish the University Grants Committee because it is unelected, unaccountable and an elite body.

In a statement to all members of the National Executive Committee of the Labour Party, also circulated to Labour education spokesmen, and Association of University Teachers headquarters, the Left Group says the UGC in its present form is an anachronism which refuses to divulge details of its decisions to those affected.

It calls on the Labour NEC to pledge to restore the universities' grant to at least the 1979 level, as there will be a big jump in the mid-1980s. "The number of 18-year-olds will be greater, on average, throughout the 1980s compared with the seventies, and there will be a big jump in the mid-1980s."

It calls for a more democratic system in which access to universities is opened to a wider range of people; discrimination through full cost fees against overseas students is ended; courses are periodically reviewed by staff and students; and resources are made available to the community.

It argues that the government cutbacks are also an attack on trades union rights. "Some argue that academics are privileged, so why

should these privileges be defended? We would say that security of employment is not a privilege - it is a right enjoyed by some workers and struggled for by many more. It is a false notion of equality to downgrade those with favourable terms and conditions of employment. Rather we should aim to spread these favourable conditions to other groups."

The group condemns the cutbacks in university finance, and disputes the claim that the university sector is too large in relation to the falling 18-year-old population. "The number of 18-year-olds will be greater, on average, throughout the 1980s compared with the seventies, and there will be a big jump in the mid-1980s."

It calls for a more democratic system in which access to universities is opened to a wider range of people; discrimination through full cost fees against overseas students is ended; courses are periodically reviewed by staff and students; and resources are made available to the community.

Older workers 'need to improve rusty skills'

by Patricia Santinelli

A greater share of the Government's proposed training programme should be allocated to providing for the unqualified and unskilled adults' basic educational needs, the Adult Literacy and Basic Skills Unit advocated this week.

These adults were more likely to be unemployed as a result of structural changes in the labour market, said the unit in its response to the Manpower Services Commission's Training Initiative.

"Therefore they will need considerable opportunities to improve their basic education, if they are to enter a labour market which is qualitatively different from the one

previously in existence. In general we do not feel the proposals take enough account of this."

Older workers experienced in traditional industries are often barred from obtaining other jobs because of their lack of numeracy and literacy. It is essential to provide them with assistance to improve often rusty basic skills before as well as during retraining, it said.

Although the unit recognized the importance of training, education and work experience for 16-19 year olds, it said that the industrial prosperity of this country equally depended on the ability of older workers to receive training and education throughout their lives.

Shelton wants skills training effort

by Robin McKie

Science Correspondent

Britain must make a "gigantic national effort" to catch up with its industrial competitors, particularly in the provision of proper training for manpower, Mr William Shelton, Undersecretary at the Department of Health and Social Security, said last weekend.

"We must offer youngsters at 16 such interesting and attractive options in the field of pre-vocational and vocational training, apart from academic learning, that few will wish to leave unskilled for the world of work - or unemployment at 16", Mr Shelton told a one-day Conservative Party conference in Eastbourne on Saturday.

Technological change was destroying demand for the unskilled in our society, he said. Youngsters who left school without skills did so under

a great handicap, not only for themselves but for the country.

Mr Shelton pointed out that 20 years ago Britain and Germany had the same gross national product. Now ours was half theirs. One reason was that Britain had fallen far behind Germany in the provision of training.

"For instance, only 30 per cent of British people have intermediate vocational qualifications compared to nearly 80 per cent in Germany. In 1976 we qualified only 11,300 engineering and technology graduates, compared to 16,000 in the Federal Republic."

Mr Shelton argued that new technologies had always created more jobs than they destroyed. "What is true is that areas of work are destroyed," he said. "Unless we learn new skills and new attitudes then we shall find ourselves with a pool of

unnecessary unemployment."

However, in another speech last week, Mr Shelton said there was no magic wand that the Government could wave to improve matters by bringing engineering educators and manufacturing industries closer.

"It is an area where indirect pressure from government on both industry and engineering departments could well bear fruit", he told a conference on Government and Engineering Education at Brighton Polytechnic.

"At the simplest level, government can provide opportunities for engineering teachers and industrial employers to come together to discuss issues of common concern. At a more public level the Government can give formal recognition to those examples of successful cooperation as a means of stimulating similar developments elsewhere."



Astronomers at St Andrews University this week

put into practice an exercise in international collaboration designed to shed new light on the nature of distant stars. The Science and Engineering Research Council has funded a two-week visit by Dr Jens Peter Kaufmann (centre) from the Institute of Astronomy and Astrophysics at the Technical University of West Berlin.

Dr Kaufmann, who has recently published an atlas of stars which lack the major stellar constituent, hydrogen, is a leading authority in the analysis of stellar atmospheres. He will help Dr William Tobin (left) and Dr Philip Hill (right) to interpret observations of hot, distant stars made both from space and from ground telescopes.

ILEA foots hostel bills

Losses of more than £200,000 incurred by two polytechnic hostels are to be met by the Inner London Education Authority.

This is in spite of Government instructions that running costs of student hostels owned by local authorities should no longer be claimed against the advanced further education "pool". Students should be charged the full economic cost the most recent White Paper said.

ILEA's further and higher education subcommittee agreed last week to meet deficits totalling £206,310 on student hostels at North London and South Bank Polytechnics during 1979-80. The governors of North Bank had applied for a supplementary grant of £38,073 and South Bank Polytechnic for £168,237.

The committee heard that both polytechnics had complied with regu-

Tory students call NUS waste of cash

The National Union of Students is accused of being undemocratic, unrepresentative and a waste of public money in a pamphlet published by the Federation of Conservative Students this week.

The pamphlet, entitled *The Truth About NUS*, argues that the NUS is run by left-wing extremists for their own ends and succeeds only in giving students a bad name. The charges are strongly rebutted by the NUS.

The 12-page pamphlet says NUS conferences are a farce and unrepresentative of student feeling, with fewer than 20 per cent of students taking part in electing conference delegates.

The federation adopted policy at its last national conference to campaign for the break-up of the NUS and the creation of a new, cheaper federation of student unions. The pamphlet echoes this, arguing that it is impossible to change the NUS from within.

An NUS spokesman said the pamphlet was a "last ditch attempt by an increasingly irrelevant extremist minority to save their own skin" as students abandon the FCS because of its hard-line right-wing leadership.

He said NUS shared the financial problems every organization had at present. The policies put up by the FCS made no difference. The NUS plans to make savings totalling £50,000 on its £1m annual budget this year.

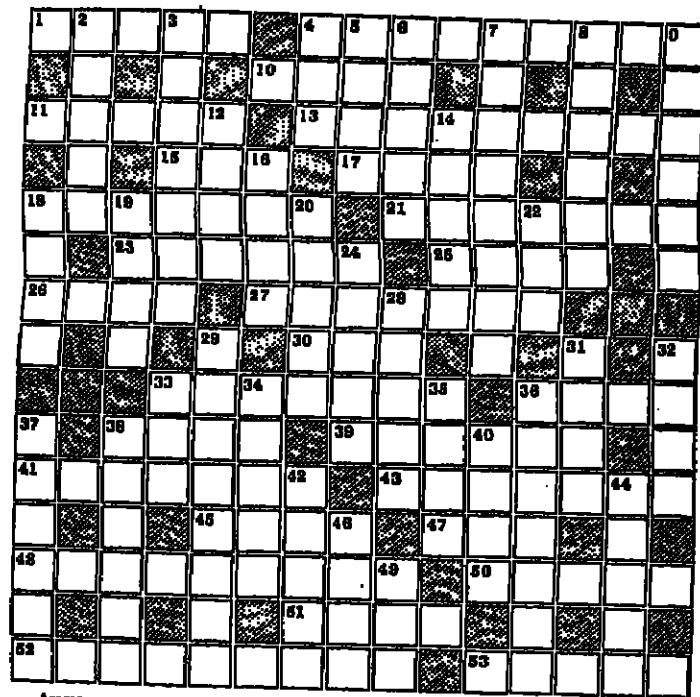
The pamphlet was also attacked by moderate FCS members for being negative. Mr Peter Moore, FCS member on the NUS executive, said it was illogical and inaccurate and the best policy was to reform NUS.

Ecology show goes world-wide

Sets of giant posters illustrating the critical relation between mankind and the environment are to be shown in a series of worldwide exhibitions following their showing at Unesco's Paris headquarters this week. A total of 1,000 sets have been prepared, with texts in local languages, and dates for exhibiting fixed for Spain, New Zealand and the Congo.

The exhibition, which was held simultaneously with a scientific conference, "Ecology in practice", was held to mark the tenth anniversary of Unesco's "Man and Biosphere" programme, a series of projects examining man's effect on the environment.

We're offering new subscribers a great 12 down!



- Across
- 1 Bread unevenly
 - 4 Part of a Milton title
 - 10 A month, nothing more, in Ireland
 - 11 He won't settle down
 - 12 22 down should be this
 - 13 Cotton-pole, so to speak
 - 17 Head of a chapter
 - 18 Denizen of the ultimate ditch
 - 19 Frequently under observation
 - 20 What's in this stands out
 - 21 Fluffy word
 - 22 The end of this gas in the way the whole may result
 - 27 Returns (sarg.)
 - 28 Happen afterwards
 - 29 Climbing instinct in man
 - 30 A terrestrial glider
 - 31 The first crew
 - 32 The Bible devil's on our money
 - 33 Simplest creature
 - 34 Time measurements
 - 35 Ladder with 4 across
 - 36 Ladder in promising mood
 - 37 Presents are commonly this
 - 38 Gets the boot
 - 39 Laid in Scotland may mean tears
 - 40 Work but usually means
 - 41 She's dead
 - 42 Only a quaterston could do this on a chair
- Down
- 2 Heraldic gold between mother and me
 - 3 Out of commonness
 - 5 Upper this value and get a sharp reproval
 - 6 Intently watched
 - 7 In time leads the things become trumpets
 - 8 A religious service
 - 9 This Hodgman has dropped an h
 - 14 Sounds like a curious song
 - 15 This ought to be square
 - 16 Monetary stoppage
 - 17 Written briefly
 - 18 Calvary's picturesque scholars carved their names on every one
 - 19 Site of 41 across
 - 20 Proceeds advantage
 - 21 Parents in a negative way
 - 24 Used to be somewhere in France

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North American news. Cuts hit heart of student aid

from Deborah Kasoff

WASHINGTON Congressmen intent on making further cuts in student aid for higher education have been accused of attempting to "repeal the very heart" of student aid programmes, by the president of the National Association of Independent Colleges and Universities.

"Unless this trend is reversed, and soon, the nation's commitment to a well-educated citizenry will be in serious trouble", Mr John Phillips said.

Mr Phillips' remarks came after a Senate appropriations subcommittee had slashed \$362 million on September 16 from authorized federally-supported student financial assistance programmes.

Mr J. W. Peltason, president of the American Council on Education, joined in the criticism of the subcommittee's action. "The nation's students and their parents are being singled out for unduly harsh treatment. This short-sighted action would deny educational opportunities to hundreds of thousands of the next generation", he said.

The subcommittee's recommendations, which will be considered by the Senate appropriations committee before being submitted to the full Senate, would have the following effects on the student aid programmes:

● Pell grants. The subcommittee set appropriations at \$2.3 billion for this programme, which directs aid to the neediest students. This is a reduction of almost \$300 million from the spending level authorized in the Omnibus Reconciliation Act which was passed by both Houses of Congress in August. The ACE estimates that this spending level would eliminate approximately 600,000 eligible students and that students from families with annual incomes of more than \$10,000 dollars would be eliminated altogether.

● National direct student loans. This programme would be reduced from \$286 million to \$186 million. According to the ACE, this cut to a programme directed to low-income students unlikely to obtain commercial loans would reduce the number of recipients by 143,000.

● Supplemental opportunity grants. This supplements Pell grants for students attending higher-priced private

	FY81	FY82 (Reconciliation)	FY82 (House)	FY82 (Senate)
Pell grants	2,350m	2,450m	2,250m	2,350m
National direct student loans	286m	286m	186m	286m
College work/study State student	550m	550m	550m	550m
Incentive grants	77m	77m	77m	77m
Totals	3,533m	3,933m	3,803m	3,803m

(FY=fiscal year)

The call of the wide blue ocean

by Peter David

A team of academics from one of America's leading universities, the Florida Institute of Technology, has just completed a visit to Britain in search of students and with an offer of technical cooperation with hard-pressed British universities.

The FIT, which specializes in marine sciences, oceanography and underwater technology, is offering British school leavers with A level immediate places on courses at its Jensen Beach campus in Florida.

But the leader of the delegation, Professor Tim Tealey, who is dean of the Institute's school of applied technology, said last week that Britain's Department of Education and Science had rejected a proposal to give undergraduate students grants to attend the American university.

Professor Tealey nevertheless confident that British school leavers will take up places on FIT's degree courses at a cost of £2,500 a year, including residential fees.

"All of us in education have a responsibility to the student and in times of difficulty, albeit temporary, we must help each other. Similarly, we share the responsibility of ensuring that there will be an adequate supply of graduates - especially those trained in the new technologies. This is a matter of worldwide importance and not just a domestic issue", he said.

"As far as school leavers are concerned, we are expanding and we have got immediate vacancies on most of our degree courses. What is more important, however, is that we are inviting British universities and organizations whose own facilities are threatened by budget restrictions to use our facilities for their training and research."

Going deep into the subject at the Florida Institute of Technology.

Professor Tealey said the Florida Institute was able to take up to about 100 students from Britain across the whole range of marine sciences, from undergraduate to postgraduate level. He also hoped that British uni-

versities whose marine science facilities were inadequate or being run down would "buy in" to the college facilities at Florida.

The FIT's school of applied technology has a full-time enrolment of 1,000 students drawn from more than 20 countries. It has played a major part in training divers for the North Sea oil industry and combines training with a degree course.

Overseas news

Africa seeks to end medical drain

by Thomas Land

A historic conference of deans of Africa's medical schools and the directors of its university centres for health sciences has decided to adopt a common pattern of training throughout the continent.

This breaks the traditional dependency of African universities on the great medical institutions of Europe and North America. The relationship has been responsible for the transplanting of Western scientific-values to Africa to the detriment of indigenous medicine practised there for perhaps thousands of years. It has also been responsible to a large extent for the medical "brain drain".

The Geneva conference under the auspices of the United Nations' World Health Organization (WHO) included among the criteria for judging the effectiveness of Africa's medical schools the practical impact which they make on the health and welfare of the continent's poor, largely rural populations.

Those peasant populations have got little benefit from Western medicine. The continent's new approach to training public health professionals is to seek a partnership of traditional medicine which has survived despite many years of official disapproval, and the modern, scientific medicine imported from the West.

Already, about 20 African countries have established research and treatment centres devoted to traditional medicine. Most countries have either decided to integrate it into their national healthcare schemes or are considering it. The entire higher

education structure concerned with medicine and the health sciences is affected by a change of such immense scale and importance.

The new partnership between the two schools of medicine enables the traditional healer to take advantage of modern techniques in spheres such as hygiene while contributing his knowledge in diagnosis and herbal remedies. Most people in the developing regions prefer treatment in traditional rather than modern medicine. And most of them have no choice.

Fewer than 10 per cent of the two billion rural dwellers of the Third World live within walking distance of Western-type clinics. There is one scientifically trained doctor for almost 5,500 Africans. Clearly, traditional medicine offers the only available avenue for approaching a reasonable health-care of the majority.

A study compiled by WHO shows that 85 per cent of the global total of migrant doctors practise in just five countries - Australia, Canada, the United States, the United Kingdom and West Germany.

The medical curricula of the developing countries have been based on the standards and expectations of the Western World, which encourages migration. "Money spent on the education of these migrant physicians could have been better spent on other and more appropriate forms of health personnel and health-care", says WHO.

Israel awaits test-tube baby project go-ahead

from Benny Morris

JERUSALEM If all goes well for the scientists, Israel may expect its first home grown test tube baby sometime next summer, following last week's "approval in principle" of plans submitted to the Health Ministry by Jerusalem's Hadassah University hospital and the Sheba Medical Centre, Tel Aviv's university hospital.

The two hospitals, in a neck-and-neck race since late 1980 to achieve a first in the field of fertilization outside the womb, are awaiting the final go-ahead from the ministry's committee on medical experiments with humans, chaired by ministry director general Professor Baruch Modan.

Professor Yosef Schenker of Hadassah and Professor David Serr of Sheba, who head their respective institutions' test-tube baby projects expected the ministry's permission within weeks.

The project may spark a major national controversy between non-religious Israelis favouring the breakthrough and its prospective benefits, and religious circles, who fear its repercussions on Jewish family life, morality and a host of related spiritual values.

"Certainly there is bound to be a great controversy between various religious factions and Rabbis in the Jewish world," said Ashkenazi (Western Jewish), Chief Rabbi Shlomo Goren.

He sees "no contradiction between the Halachá (Jewish religious law) and the test-tube baby projects so long as they are conducted within well-defined conditions," as set down by the ministry.

But the country's Ultra-orthodox, antagonistic to the medical community for decades because of autopsies and abortions, which are both seen as contrary to Halachá, are "suspicious that the doctors will 'play around with the ovum and sperm or make mistakes with them.'"

The ministry, in the first experimental stages, has restricted the test-tube projects to married couples whereby fertilization of the ova will be restricted to the sperm of each woman's husband and to women who clearly cannot be cured of infertility by any other means.

"We have agreed to the test-tube baby projects as they conform to the biblical injunction 'PRU (Procreate) and multiply'. We are only allowing it in cases where women who would otherwise be doomed to permanent infertility," said professor Modan.

The forthcoming experiments will place Israel among the select club which includes Britain, France, the US and Australia. There are today about half a dozen "test-tube babies" growing up and another eight women who are pregnant with test-tube foetuses.

According to Professor Schenker, there are about 100 women in Hadassah who are ready to be treated.

Professor Serr said that Sheba already has successfully mastered all the techniques down to the "reintroduction into the uterus" stage. But Sheba, a government hospital, suffers from chronic budget problems, and lack of money may lead to a suspension of the experiments despite the impending ministry approval.

High-fliers' results probed

Ptata University has ordered an inquiry into exam results which produced a remarkable 50 first class honours degrees.

The 1979-80 results only just reached reveal 35 students got a first in economics, 17 in English and many others also got high results. But too many of these high achievers have turned out to be sons of university departmental heads, high

powered politicians and top bureaucrats.

The academic council will be investigating the results for suspected rigging. In the early 1970s medical examination results were so systematically manipulated by whichever party was in command that the Medical Council of India was compelled to withdraw recognition of the degrees.



The herbal knowledge of traditional witch-doctors has survived despite official disapproval.

Solidarity angry at reform proposals

Poland's new academic year opened yesterday under the shadow of a fresh round of confrontations between the universities and the Ministry of Science, Higher Education and Technology.

Strike alerts have been called by Solidarity chapters in several universities and colleges, and the new Independent Students' Association is preparing to poll its members on possible student action. Significantly, protests have also been voiced by the "old" (Party-linked) Union of Polish Teachers and Polish Socialist Students' Association.

The tone of contention is the new bill on higher education, which was due to be submitted to the Sejm (parliament) at the end of September. During the last year, several drafts had been worked out by the ministry and by a "social drafting committee". Finally, a compromise bill was agreed at the end of June, and the then minister, Dr Janusz Gieski, pledged that no further changes would be made without consulting the academics.

During the vacation, however, there was a change of minister. In mid September, the academics learned that the bill which Dr Jerzy Nawrocki would be submitting to the Sejm would not be the version agreed with Dr Gieski.

Amendments had been introduced which would reduce academic freedom taking away, the right of the universities to teach a multiplicity of "world views"; reduce the power of the governing councils; restore the old procedures for electing university rectors, deans and collegiate bodies, making them dependent on government and Party backing; curtail autonomy in spending; increase the powers of the courts regarding student organizations; and curtail the rights of employees of academic institutions to organize and take part in protest actions.

These changes would nullify the recent liberalization of academic life which the new bill intended to codify. It is by no means clear who was responsible for the changes.

Minister Nawrocki issued a statement pledging to submit a bill for discussion by the Council of Ministers "in accordance with earlier obligations" and "without essential changes". He stressed that the ministry reserved the right to set an upper limit on university intake, so as to ensure a rational employment policy, and that the university could not have complete budgetary autonomy.

The majority of the academic community is in favour of peaceful negotiation. Interviewed on Warsaw Radio, Dr Michal Pulawski, chairman of the Solidarity chapter at Krakow's Jagiellonian University, which issued the first strike alert, said that he hoped that "common sense would prevail".

Rectors deans and academic council members elected under the new democratic procedures are not likely to take the proposed loss of their new autonomy lightly, particularly as they feel the ministry tried to forestall any possible protest.

Christian Democrats win poll

from James Hutchinson

BONN The Christian Democratic Union's student organization easily topped the polls at the summer term elections to the student parliaments at West Germany's universities. Its share of the votes went up from 25 per cent to 29 per cent, and at five universities it will be in a position to form the student government, but elsewhere it will be excluded from power, since other political groups are not prepared to form coalition with the Christian Democrats.

The elections were disappointing for the young Socialist organization, which polled 8 per cent, compared with 9 per cent last time. Maoist Communist groups, which wielded some influence in the student parliaments in the early 1970s, fared badly and are no longer a significant force in the universities.

The ecologist or "green" groups, which are flourishing in Germany's political life, fielded relatively few candidates in the university elections, where they did so they polled well. In Hamburg they got 5 per cent of the vote and in Bielefeld they captured about a third of the seats in the university parliament.

Less than half the students bothered to vote.

Union leaders threaten strike

from Emil Zubryn

CUERNAVACA Universities in Mexico face the prospect of further disruption following a one day strike at the start of the academic year.

Dr Octavio Rivero Serrano, dean of the National University of Mexico (UNAM), claimed the strike by university workers was "illegal" and a "violation of university autonomy".

Union leaders said the walkout on September 10 was a success. They warned that if their demands on labour contracts are not met, further walkouts of longer duration will be called.

Universities of Puebla and Oaxaca suspended classes indefinitely.

The underlying problems are political with differences of opinion in the matter of labour contracts, charges of violation of university autonomy and persistent demands for increased wage scales ranging from 33 to 50 per cent.

Other demands range from lack of personnel in administrative offices to attend to students, to cleaning and repair of sanitary facilities, as well as improvement of library facilities. Students are supporting the strike movement because of discontent with the contracting of "inadequately trained" professors by universities.

The annual report of the Social Science Research Council will be published this month. The SSRC is preparing to shed its image as a glossy affair. The traditional HMSO mould will be broken and a picture will appear on the cover, probably of an oil rig in the North Sea. Inside, alongside the accounts, are planned essays by post-graduate students detailing their work.

An oil rig would neatly symbolize the new direction being pursued by the council. The SSRC is preparing to shed its image as the promoter of dusty, theoretical, and sometimes abstract research and replace it with the role of impresario for active policy-oriented and problem-solving research. The oil rig represents the work of the SSRC's energy panel which has a £1m budget.

Such changes do not occur overnight. The change of direction has been building up throughout the 1970s. But this more than anything is the rationale for the council's plan to restructure the 15 subject committees (see table 5) into six multi-disciplinary and problem-centred standing committees, which will be finalized at next week's council meeting.

The main battle over the plan was resolved at the July council meeting but some of the detail will be outlined in a 'White Paper with green edges' published this week. Its very publication shows how significant the reforms are regarded inside the SSRC and indeed how strong some of the opposition to the new scheme has been.

In the past this central debate on the working of the SSRC has been described as the battle between the *dirigistes* who want to initiate applied research from the centre and the 'fair shares' cooperative workers who want to support the best research applications in each discipline.

The latest reforms, it is argued, signal final victory for the *dirigistes*. Their opponents believe the role of the SSRC is simply to back the best original fundamental research using the principle of peer review. The July council was their Waterloo, with Michael Posner, the current chairman, as Wellington. Professor Michael Wise, professor of geography at the London School of Economics, as Marshal Blücher, and Professor A. H. Halsey, professor of social and administrative studies at Oxford, the ill-fated Napoleon, now banished to Elba in any case by the Secretary of State for Education.

At that meeting the council plumped by 11 votes to 4 with a few abstentions, for six new standing committees:

social to cover social policy including all aspects of health, personal social services, social security, studies of deviance, ethnic relations, equal opportunity, and population;

education to cover the care and education of children, the training of young people and continuing education;

industry and employment to cover industrial structures, training, the labour market, change and innovation, and industrial relations;

economic to cover macro-economic policy, forecasting and modelling and resource allocation;

and a fifth committee to cover the environment and planning to cover management of socio-economic and physical environment, planning, housing, transport, urban and regional policy;

government and law to cover the decision-making process, political groups and institutions, legislation, and relations between state and individual.

An alternative plan to retain a discipline based system reducing the 15 committees to about nine by a series of mergers was lost.

The build-up to the meeting saw some fairly intense lobbying on both sides, with the critics of the new scheme arguing that at stake was not just a question of how the SSRC could best work, but also the sacred principle of peer review. They argued that the new structure would bring the SSRC too close to government, that it would fall into the hands of managers, clients, and amateur social scientists, and its independence might be jeopardized.

The discipline-based system alone ensured peer review based on judgments of academic excellence.

The supporters countered with three major arguments. First the new structure represented the natural culmination of pressures inside the SSRC which had been gathering momentum over years, and that it would allow the SSRC to fulfil best its appointed task.

The SSRC was, they recalled, set up after the Heyworth Committee reported in 1965 that the extra funding required to set up a new research council for social sciences "would be more than repaid by improvement in the efficiency of the national economy and in the quality of national life".

In the early years it was felt the best way to achieve this was by concentrating on training research workers headed by government departments and expanding universities. A discipline-based structure worked well both for allocating studentships and for responding to research applications.

But two major defects appeared as the 1970s progressed: the level of top quality research applications fell below expectation leaving the SSRC underspent in some years and the system threw up few good multi-disciplinary projects. It was widely argued the great social and economic problems of the day were not being tackled. In short the SSRC was, it was said, failing.

Inside the SSRC it was felt the best remedy would be to launch initiatives from the centre. The council promoted special research units which now cover ethnic relations, industrial relations, population

The quiet revolution in social science

BRIEFING

Paul Flather reports on the background to the SSRC's decision to reorganize its committees and change its image



Mr Posner: Wellington



Professor Halsey: Napoleon

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studies, and socio-legal studies. The council also established a Research Initiatives Board to work alongside the Research Grants Board.

A new animal - the initiative panel - was born. The first, a pre-school education working party, was in fact set up back in 1973, followed by a panel examining "transmitted deprivation", inspired by no less a figure than the new Education Secretary, Sir Keith Joseph.

Panels come and go as problems alter: there are now 25 panels, some of the best known looking at crowd behaviour, North Sea oil, to shortly publish a final report, and more recently Inner Cities, and Northern Ireland, showing the council's desire not to avoid current controversial problem-areas.

The growth of this area of work is shown in Table 3 with the percentage of funds going to the panels increasing from two per cent in 1975 to 10 per cent in 1980. In all, Mr Posner told the Public Accounts Committee last year, one third of the SSRC grant budget now goes on initiatives, two-thirds on responding to applications.

At the end of 1979 the two research bodies were merged to form the Research Board, the principle of setting up designated research centres was approved with all five now in operation, and most recently the Technical Change Centre was established. All the evidence supports the claim that the SSRC was moving towards initiating more and more applied research.

The second argument used by the supporters is the changed economic climate. The SSRC more than any other research council has suffered in the recession, losing in real terms 20 per cent of its budget since 1978. The great cut came in 1979 when the number of studentships was slashed in mid-year from 1,939 to 1,484, a cut of 23 per cent.

Table 5 shows how the number of new awards has declined dramatically recently. The SSRC has already warned that the scale of support for studentships in the 1980s will be half of the 1970s peak. As Mr Posner told the PAC, this is partly because there is little demand for research workers now.

This releases money for grants, but already the number of grant periods a year have been reduced from three to two. The real argument here is that fewer, larger, committees will allow fairer choices between applications. The success rate, by value, of research applications (see Table 3) shows how it has become more difficult to win funds. The peak was 44 per cent in 1974-75 but the rate is now 25 per cent.

Table 4 shows the winners (economics, psychology, geography and planning) and losers (management and industrial relations, politics and international relations, and statistics) in the grant stakes, by individual subject, over the last ten years.

The third argument was administrative, that the new system tidied up the increasingly complex structure of committees, and promises savings in time. The proportion spent on administration is shown in Table 1.

The options in the face of cut-backs, the supporters argued, were to pursue a policy of equal misery, to abolish all research initiatives or to go for fewer disciplines, the agreed reform.

The critics however felt the new structure had not been discussed widely enough, and indeed subject committee chairmen first heard of the plans after a press leak. They were incensed by the secrecy and apparent threat to their own domains. The critics also felt that hints at resignations by the chairman if the scheme was not agreed were hardly in the category of fair play.

The real issue however, was probably best put by Professor Halsey who has worked with the SSRC since its birth. He was one of the four opponents of the reform, along with Professor Dorothy Wedderburn, shortly to take over Bedford College, London, Mr Douglas Brooks, a company director, and Professor Ernest Gellner, professor of philosophy at LSE.

Professor Halsey believes the job of the SSRC is to maintain the social science disciplines and he sees as dangerous the shift towards doing more and more applied research of the kind desired by ministers. "The great argument is whether you can assess the quality of research by peer review or whether you can get it right by using non-expert people."

He wanted about ten committees with increased vetting at a senior level to ease comparisons.

Outside the SSRC there is also great suspicion about the changes. For example, Professor Margaret Stacey of Warwick University wonders which disciplines will gain and which will lose; Professor Peter Townsend of Essex University fears it has been too hurried with too much uncertainty; and Professor Bernard Crick of LSE says that the dangers of the SSRC getting too close to Government and sacrificing its independence and prestige are greatly increased.

This fear was shared by Andrew Schofield, a former council chairman, who wrote in 1975 of the great need for an effective safeguard against increased political interference.

He said there was a tendency for ministers to try and become their own social scientist, and interfere in a way they could not become their own natural scientist. The row over the sacking of Professor Halsey as a single term council-member supports the point.

The whole relationship between research councils and government departments - the customer/contractor principle - was well aired in the wake of the 1971 Rothschild report. A good example of how the system ought to work with the SSRC providing pump-priming or leverage was the funding of the famous Education Priority Areas research carried out with, in fact, Halsey as national director and published in 1972.

The Department of Education voting for a follow-up on the Plowden report provided £100,000, and the SSRC wanting "action-research" provided £75,000. Will such arrangements continue, ask the critics?

The supporters believe that in fact a whole new area of funding will be opened up with the SSRC able to bid for research from government by acting itself as the contractor. In the current climate such extra revenue could prove vital. It is argued. In the same vein though perhaps fuelled by other fears, Mr Posner told the PAC last year he hoped for a greater presence for clients on the committees to emphasize the applied nature of SSRC work.

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The Department of Education voting for a follow-up on the Plowden report provided £100,000, and the SSRC wanting "action-research" provided £75,000. Will such arrangements continue, ask the critics?

The supporters believe that in fact a whole new area of funding will be opened up with the SSRC able to bid for research from government by acting itself as the contractor. In the current climate such extra revenue could prove vital. It is argued. In the same vein though perhaps fuelled by other fears, Mr Posner told the PAC last year he hoped for a greater presence for clients on the committees to emphasize the applied nature of SSRC work.

Table 4 shows the winners (economics, psychology, geography and planning) and losers (management and industrial relations, politics and international relations, and statistics) in the grant stakes, by individual subject, over the last ten years.

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HIGHER EDUCATION: ADAPTATION AND CHANGE

Gentle radicals decide to go down fighting

by Peter Scott

The third Leverhulme seminar, on adaptation and change in higher education institutions, which was held at Bristol Polytechnic last week, was a resolute and even gently radical occasion.

Four broad themes ran through the two days of intense discussion. The first was that having failed to beat the politicians, an outcome that can hardly be denied amid the debris of the cuts, it was time to join them. There seemed to be substantial agreement that the best course for universities, polytechnics, and colleges was to retreat into apolitical isolation and dumbly await their fate but to get more closely involved in the political process and at least go down fighting.

The seminar was persuaded to adopt this perhaps surprising line partly by the encouraging experience of higher education in the United States where closer political involvement seems to have provided a sturdier defence against the rising tide of philistinism, and partly by the home-grown desire to maintain diversity and to encourage change.

The outcome was a most remarkable willingness to accept the extension of political power into higher education. Although no firm consensus about the superior merits of Model A (CLEA) or Model B (DES) was reached, it was agreed that local authority involvement needed to be maintained in the polytechnic and college sector and, most surprising of all, even extended to cover the universities in some (unspecified) manner.

Indeed the insurgent populism was not restrained at that point. It was further half-agreed that lay people should be involved more closely in academic planning, that credit transfer should be strongly encouraged (although here there seemed to be a wary flicker of recognition that this might lead to a curricular revolution).

Surprise call for local authority power

by Peter David

The third Leverhulme seminar differed in two important respects from its predecessors. First, an attempt was made in the final session to distil three days of wide-ranging discussions into a set of specific propositions. Although they will enjoy no formal status, the propositions will be incorporated in the report on the seminar to be published by the Society for Research into Higher Education.

And second, the propositions which seemed (no formal votes were taken) to command support amounted to a far more radical agenda than could have emerged from the seminars on the labour market, demand and access. Among the more unexpected views were the need for a more uniformity in higher education which the seminar wanted to avoid.

The system of tenure should be modified because it inhibited change within institutions. But it was also an important part of academic freedom and would have to be retained in some form. Higher education urgently needed a better age spread of staff and staff mobility had to be encouraged to prevent ossification.

The rules governing student entry, and the curriculum, teaching styles, and modes of study ought to be used as instruments to encourage wider social access to higher education. Higher education should become involved with the education of the over-16s.

A proposal to extend external validation or at least formal peer review to university courses was not convincingly supported. But it was agreed that a paper on the subject should be commissioned.

Higher education institutions should be ready to use financial incentives and disincentives to encourage change, so long as the principles expressed through such mechanisms were based on "academic substantives" and were arrived at through the "bottom-up" initiatives of the "academic" and departments. Planning within institutions should be based on continuous dialogues and

and even that there should be a serious evaluation of the advantages and disadvantages of formal peer review of university courses (à la CNAAP?).

All these perhaps surprising conclusions seemed to arise from the belief that external agents, whether Government, UGC, new national body, CNAAP, or local authorities, were also powerful agents of change and that without them the oppressive inertia, both intellectual and administrative, of institutions and departments might stifle the change necessary for survival.

However this first theme, the need to become engaged in the political process and to open up higher education to wider lay influences, seemed to sit uneasily with the second theme which was just as powerfully presented. This perhaps best summed up in the phrase, planning modesty. For there was little enthusiasm for or confidence in planning, at least of the *dirigiste* variety. Instead planning for change within academic institutions was seen as a more modest exercise, the creation of a positive environment in which the inevitable negotiation of change could then take place.

This modesty was grounded in the strongly held belief that some very important forms of change in higher education, those which arose from the construction and re-ordering of knowledge, had to come from the bottom up and could never be imposed by "leaders" whether vice chancellors, directors, or politicians.

But the third theme, the rigidity of institutions, seemed to swing the balance of the argument back to greater reliance on external stimuli. The seminar, for example, although the university participants balked at the stark statement "tenure is a bad academic planning, that credit transfer should be strongly encouraged (although here there seemed to be a wary flicker of recognition that this might lead to a curricular revolution)", it seemed to be accepted that a higher education system com-

were based should be spelled out, and the principles should be chosen after consultation with institutions and departments.

A proposition that the binary divide should be retained to encourage diversity was criticized by those who believed there were no real distinctions between universities and public sector colleges. A suggestion that the seminar should support "pluralism" instead of binarism was described as "fudging the issue". There was more agreement on the need for a credit transfer system, although some participants were anxious not to press forward too rapidly in a way that would create resistance in the institutions or create the uniformity in higher education which the seminar wanted to avoid.

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HIGHER EDUCATION: ADAPTION AND CHANGE

Need for small-scale work bases

Institutional change designed to increase cost-effectiveness and participation in higher education would fail disastrously without the fundamental strength of a well-considered and understood system of "work bases", small-scale communities of staff and students, Mr Brian Cane, principal of the City of Liverpool College of Higher Education, argued in his paper.

There is, after all, something to be said for the small collegiate base which is echoed in industrial and local communities today," he added. He argued that all the planning in the world could not create student motivation and guarantee staff morale and dedication. Yet productivity and success depended on these factors as well as organization and policy. For this reason harbouring the resources of goodwill and good relationships should be a prime consideration in future institutional change.

It was very much a matter of scale and priority, Mr Cane continued. He

believed that a community of about 200 students and 20 staff was about the upper limit if these objectives were to be achieved. Such a community could be collegiate and cut across academic boundaries or it could be a faculty of department. The essential point was that such communities should be firmly recognized and supported by the total institution.

He deplored the domination of higher education by the three or four-year honours degree and strongly supported the alternative proposal for a two-year Bachelor's degree. Such a two-year degree would be distinct from existing degree courses and not be classified. Students should study three subjects.

Colleges of higher education would find this suggestion a natural development within their diversified curricula, Mr Cane argued. The new degree would provide the opportunity to improve the quality of TEC and BEC Higher certificates by introducing generalized two-year

courses alongside these specialized programmes.

This alternative Bachelor's degree would need to be complemented by a two-year taught Master's degree which would follow on directly. The aim should be to reach the standard of a conventional honours degree with this course.

Mr Cane continued: "An alternative Master's degree of this kind offers versatility in that it fits the circumstances of most existing higher education institutions. It could be a very specialized subject-oriented degree in a university department; in a polytechnic, it might have a strong vocational bias; in a liberal arts type institution, it might offer a high quality performance arts experience, or it might combine English Literature with a business orientation course."

If the universities turned a deaf ear to this proposal the polytechnics and colleges should start the experiment. The immediate need was to pioneer two-year courses less specialized than TEC and BEC Higher.

Students should have a choice of very technical, general liberal arts, or mixtures of these two.

Mr Cane argued that two-year courses of this type would fail if they were not a second stage for promising students to aim at. The proposed Master's degree, years three and four, would offer less economic options and smaller tutorial groups and also be restricted to, say, 50 per cent of those finishing the two-year Bachelor's degree, so there would be considerable gains in productivity which would allow up to a third more students to be admitted at the start.

Further savings could be made if the new pattern of two plus two courses was organized on a collegiate pattern of combined studies under which many courses were taught on common. Mr Cane also urged amalgamation of institutions should not be seen as a short cut to savings. Amalgamated institutions could be as wasteful of resources as separate institutions.

Sizer gets the measure

Only "partial" measures of performance are possible in universities and colleges, Professor John Sizer, senior vice-chancellor and professor of financial management at Loughborough University of Technology, argued in his paper which examined the contribution management techniques can make to the process of change.

These partial rather than categorical measures provided a starting point for managerial judgments but there was likely to be for the foreseeable future a considerable gap to be bridged by such judgments, he added.

To achieve positive motivation institutions are having to recognize that faculty and administrators at all levels should participate in all aspects of performance assessment, hence the growing interest in institutional self-evaluation.

Professor Sizer emphasized the effectiveness and efficiency were elusive concepts in higher education and there was always a need to balance short-term pressures for increased cost efficiency with the actions that needed to be taken to make institutions more effective in the long term. In any attempts to measure performance a proper balance also had to be struck between qualitative and quantitative aspects.

It was not surprising that during the expansionary 1970s administrators and decision makers tended to concentrate upon quantitatively based process measures of performance even though they recognized these were inadequate measures of institutional effectiveness. Process directed evaluation was less obnoxious to academic than the ethos of teaching and research efficiency, as it did not threaten academic freedom in a direct way.

Professor Sizer believed there was a strong case for developing dynamic progress measures of performance in addition to process measures and, where possible, measures of outcomes, benefits and impacts. The central theme of his paper was a discussion of whether the performance of an institution should be assessed in terms of its responsiveness to the changing needs of society, and if so, should appropriate measures be developed to evaluate an institution's progress in implementing a strategy for its development.

While rejecting manpower planning, he recognized the importance of the sovereignty of the market place during the 1980s and 1990s, and agreed with the Carnegie Council that "the road to survival now leads through the market place". Institutions should not lose sight of the fact that they help create the market place in which this consumer sovereignty was exercised.

Professor Sizer argued that each institution should be encouraged to develop scenario analysis as a first step in institutional self-evaluation. Having developed such scenarios, institutions needed to compare their strengths in various subject areas with those of other institutions with similar future attractiveness of subject areas so as to identify priority areas for future growth, consolidation, and rationalization.

While recognizing the need for the DES and the UGC to take a national view, this did not preclude the opportunity for each institution to submit proposals.

A serious risk was that under conditions of stagnation or contraction an institution will not be able to support new developments. Professor Sizer argued. Such areas could be supported out of increments but during periods of stagnation or decline, so institutions had to redeploy resources from low strength, low attractiveness areas into emerging and existing growth areas. The strategy involved an evaluation of an institution's subject area portfolio would distinguish between existing and emerging growth areas, consolidation areas, and withdrawal and redeployment areas.

Call for change of CNAA role

The Council for National Academic Awards should be reorganized so that a single body becomes responsible for funding higher education institutions in the public sector as well as for validating their courses, Dr William Taylor, director of the University of London Institute of Education, argued at the seminar.

In a commissioned paper Dr Taylor said that it was the separation of finance and control, course approval and academic validation that had bedevilled public sector higher education. None of the proposals for a national body outlined in the recent Green Paper were likely to solve the problem.

A divided system of course approval and academic approval worked reasonably well in conditions of growth, when there was plenty of scope for the addition of new courses and institutions could present their funding bodies with bills for academic approval - improved staffing, more library resources, enhanced administrative backup - with the virtual certainty that these would be met. These conditions no longer exist.

Today, Dr Taylor argued, the emphasis should be not on the approval of new courses but on decisions to close courses down. Institutions did not have to seek approval to close courses, and such decisions were likely to be made on the basis of staff retirements and resignations, short run student demand and opportunities to protect existing jobs.

"There are at present no formal mechanisms in the public sector whereby proposals of this kind can be made known and discussed before decisions are taken, and the informal networks whereby information on these matters can be circulated and acted on are in some subject areas not sufficiently well developed to fill the gap."

None of the schemes canvassed in the Green Paper would forge adequate links between finance, course approval and academic validation of a kind that would overcome the weaknesses in existing arrangements.

The need to develop political skills to counter financial stress

Financial stress and contraction could become a creative force for change in higher education, but only if the leaders of institutions were politically shrewd and skilful.

That was a principal conclusion of a major study of the politics of institutional change written for the seminar by Mr John Davies of the Anglian Regional Management Centre and Dr Anthony Morgan, professor of educational administration at the University of Utah.

After a wide-ranging survey of the literature on institutional change Mr Davies and Dr Morgan argued that the evidence could be read either negatively or positively.

On the negative side, institutions of higher education could be viewed as extremely conservative organizations generating little change in and of themselves and exhibiting a highly defensive and traditional posture.

On the positive side, the conditions created by instability and contraction could be viewed as critical yet ideal periods for effecting programme and institutional mission changes that would prove difficult under other circumstances.

In a very fundamental sense, the authors maintained, change went against the nature of organizations and "external proceedings" were often needed to stimulate internal changes. But too much prodding could divert attention from the need for institutions to have sources of support which provided for stability as well as change.

Constructive and socially useful changes within higher education institutions were very difficult to achieve in a perpetually turbulent and highly uncertain environment. Big changes in an institution's role, or even marginal rationalization, required time to implement and it was necessary to know what level of financial provision would eventually be made.

One of the key tasks of both government and higher education leaders is therefore to develop mutual understandings as to probable financial equilibrium levels over a period of time. Once reasonably based and assuming that they provide both pressures for change and sources of stability, educational leaders in concert with their faculties can proceed to develop long-term plans.

Another major task of institutional leadership, however, was to foster a positive climate despite the conditions of instability and contraction. Institutions should be made to feel that they mastered their own destinies.



Dr Taylor: 'conditions have changed'

Dr Taylor argued.

"Instead, consideration should be given to a major reorganization of the Council for National Academic Awards, with a view to vesting both resource and academic decisions within a single framework."

Dr Taylor also called for changes in the professional structure of university employment so that institutions could cope more easily with change. Existing employment arrangements could be criticised for their inflexibility, the shortness of probation, the automatic progression up the salary structure and the erosion of differentials.

It seems unlikely that these problems will be overcome until the overriding issue of tenure has been dealt with. Tenure is often defended on grounds of academic freedom, when the chief motivation is in fact job security.

"Attacks on it on the grounds of inflexibility often disguise feelings that it constitutes an outdated privilege, appropriate to a period when scholars were also gentlemen, but out of place in the context of contemporary industrial relations, and perhaps offering publicly financed shelter for some kinds of dangerously subversive opinions and activities."

Dr Taylor said he hoped that recognition of how entrenched views about tenure had become would encourage moves towards some kind of compromise. Open-ended contracts could be offered only to more established and productive academics, coupled with extensive periods of probation and a more differentiated salary scale.

"The practicability of 'buying the rule book' in this way turns on the possibility of introducing early retirement and redundancy terms a great deal more generous than those of the premature retirement compensation scheme, and perhaps not dissimilar to the 'Crombie' arrangements which applied to staff of the former colleges of education."

Dr Taylor said there were few signs of the hoped-for weakening of the binary division in higher education. Pluralism had never caught on and irreducible differences separated universities and polytechnics.

"Prominent among these differences are the freedom of institutions to spend money available to them as they see fit, the ability to offer new courses and programmes of study, and the right to assume responsibility for academic standards."

Single body 'the only answer'

A single national body for all higher education, which would subsume the University Grants Committee and any new committee for colleges and polytechnics, should be created, Mr Gerry Fowler, deputy director of Preston Polytechnic and a former Minister of State at the Department of Education and Science, argued in a paper presented to the seminar.

He also suggested that a new pattern should be created of two and three-year colleges, three and four year institutions, and finally senior institutions offering courses of four years or more. These might be arranged in consortia, or as junior colleges "feeding" senior institutions, and be linked by a system of credit transfer.

Mr Fowler criticized the reorganization of the colleges of education which had produced, "mini-universities, offering the same range of courses, without the same range of academic expertise." They were the models of what might have been the two-year institutions and most of the colleges of higher education should adopt that form, he recommended.

He argued that there never had been any justification for local authority control of institutions that served regional, national, and even international needs. "The present government in its recent proposals for non-university higher education in England seems to me to have got it precisely right," added Mr Fowler.

"I have no sympathy with the alternative CLEA proposal."

However, the Government's plan also had weaknesses. It was still based on the dubious claim that

Councils 'should run all forms of education'

All undergraduate education, both in universities and maintained polytechnics and colleges, should become the responsibility of local education authorities, Mr Tyrrell Burgess, reader at the North East London Polytechnic, argued in a seminar paper.

He said that both the "autonomous" and the "service" tradition in British higher education had been undermined by a powerful centralizing tendency in society. The University Grants Committee was no longer a buffer but an instrument of central control, and the powers of local authorities would be effectively removed by the proposals in the recent Green Paper on the public sector.

"These tendencies must be questioned and reversed," he said. "It simply cannot be shown that centralizing decisions, either by the UGC or by central committees dominated by the Secretary of State, lead to better and more rational outcomes. The health of higher education, like the health of society, depends on reversing centralization and placing responsibility where it can properly and sensibly be exercised."

Mr Burgess argued that there was a place in higher education for both the autonomous and the service traditions. The autonomous tradition was aloof, conservative and exclusive, but also a bulwark against tyranny. The service tradition was responsive, vocational, innovative and open. The autonomous tradition asserted the priority of the discipline. The service tradition laid itself open to having serious human and political arguments.

Both, however, had been broken down by centralizing tendencies. The two principles of UGC funding - the block grant and the quinquennial settlement - had now collapsed, and the 1981 settlement would discourage universities from independent planning in the future. The public sector's responsiveness had diminished and a system of national initiative and direction had taken its place.

"Much of the present collapse of the autonomous institutional arrangements derives from financial stringency, but decay had set in long before. The change in the character of the UGC was almost certainly not deliberate. Rather it was attributable to the growth of the number of institutions for which it was responsible."

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ble and of the amounts of money dispensed.

"This particular device for recognizing and preserving autonomous institutions can simply not be operated if the number of institutions is very large. In other words, the old relationships have become impossible. If the autonomous tradition is to be preserved and indeed strengthened, its institutional arrangements must apply only where they are apt. This means very greatly reducing the scope of responsibility of the UGC."

Undergraduate education on the scale that now existed was clearly a service and not an autonomous function, Mr Burgess said. The local authorities should therefore be responsible for education up to first degree level, leaving the UGC to support postgraduate work wherever it occurred and in institutions devoted solely to postgraduate study.

On the local authority side, there should be no "quango growth" and both the advanced further education pool and the regional advisory councils should be abolished. Every local education authority would be able to provide higher education although there would be some transitional difficulties.

The reorganization of local government had produced about 100 large local authorities and if each had an "institute" of higher education the total, with more than 40 universities, would be reasonable for a country the size of Britain.

The proposal itself would not only strengthen the service tradition: it would also preserve the autonomous tradition. Most obviously it would remove the huge responsibility for undergraduate education which it is ill-equipped to carry.

"The UGC would be a body supporting postgraduate work, wherever it occurred, and institutions devoted to postgraduate work alone. Its object would be to fund the preservation, extension and dissemination of knowledge for its own sake, in contrast to undergraduate education on the one hand and the particular support of research councils and government departments on the other."

"This task would be entirely within the compass of a central body, acting as a 'buffer' between the funding body (the Government) and the funded institutions."

transfer Mr Fowler emphasized the importance of collective autonomy rather than national control. He recommended that institutions establish a credit transfer consortium, although care would have to be taken to prevent its domination by traditional university interests.

He also urged that the present system of dual support of research should be ended with research money going to individuals and teams whatever their institutions but without any "background" support for research being distributed to the universities by the UGC.

Finally Mr Fowler emphasized the obstacles to reform and change. "The diffusion of power between several levels of control has a conservative effect because of the tension between the several organs of control," he added. "The best instance in recent years is the failure to resolve the problem of the control and funding of public sector higher education, which is now a long-running saga worthy of Hollywood."

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Rules of the game 'have been changed'

Higher education in Britain is at a turning point and changes in the system will in future take place in different ways, according to a paper on the politics of sectoral change written jointly for the seminar by Professor Maurice Kogan and Mr Christopher Boys, members of the department of government at Brunel University.

In the past, the authors maintain, the British system had sought to achieve a balance between respect for the inner life of higher education and the need to control its scope and purposes in the interests of the economy, of resource control and other social ends. But recent contraction had altered the relation between the centre and the "basic units" in higher education and "entirely changed the rules of the game."

Kogan and Boys propose four models to summarize the administrative and governing structures of the higher education system: centralist, rationalistic, market, political and free oligarchic. After examining recent changes and the history of teacher training and the universities, they conclude that a particular style of government and politics, the centralist managerial model, has assumed greater prominence than the others.

Reviewing the experience of the teacher training colleges in their great period of contraction, the authors say that "framework" decisions based on the size of the population and the higher education budget were dominant and the more intricate normative implications somewhat overlooked.

"Thus the centre responded to the prescriptions of the Treasury and the population data from the registrar general's office. But the educational effects of drastically reducing and amalgamating institutions, which might be both necessary and meritorious in their own rights, were not a significant part of the public discussion. And questions of qualitative change, as taken up in the James report on teacher education (1972), with its proposal for three cycles of teacher education, never fully engaged the minds of the central decision makers."

From the political point of view, say the authors, the different groups concerned with the decisions taken did not negotiate or compete on equal terms. The DES, with control over the institutions and resources, consulted but did not bargain. Superficially, the universities represented a different model of change - a combination of the free oligarchy of academics pursuing their own aims and of the market model in which different forms of sponsorship are won by responding to different market demands. In practice, rationalistic planning increasingly took

over once universities began to receive their income from mainly central government resources.

"The political process of change has been not far different from that affecting teacher education. In the past, vice chancellors and chairmen of councils might have had an influence on the leaders of political parties. In recent years, and certainly from 1967, government has made up its own mind in response to what it felt was needed."

"Whilst government believed that expansion or at least a steady state in the universities was appropriate, no serious issue arose. But now that the hardest case of all is presented, namely the 'need' for an absolute reduction in places and monies for universities, the fragility of the political system in higher education becomes evident."

"There is no constituency to which the universities can appeal. They have no power in the political system which they can use. Their equivalence in the USA, the alumni of the powerful universities are not organized to bring pressure upon political representatives who might cause a change in the government's mind. The only hope of the universities is that the action of the Parliamentary select committees might cause a change of mind; but they have no particular purchase on MPs in the way that university leaders in the USA might have on state senators and assemblymen."

Turning to the future, the authors argue that whatever structures and relationships are adopted should allow conflict to come out into the open rather than assuming that politics are a bad thing in education.

"The alternative to open politics has proved to be a long period of assumed consensus and tolerance of the tension between the centre and the institutions which is now being shattered by a drastic display of decision making at the centre."

Division of labour essential for success

It is safer to err towards "the mischief of monopoly" than "the mischief of anarchy" in planning the future of higher education, Professor Burton R. Clark, professor of higher education and sociology at the University of California at Los Angeles, argued in this paper on a cross-national view.

The principle that diversified structures facilitated change argued strongly for a division of labour among institutions. Multiple-type systems on the whole had been more adaptable and the direction of change had always been away from homogeneity.

Professor Clark continued: "A single sector of nationalized public universities cannot zig and zag in all the many directions called for by increasing heterogeneity of function. The form becomes overloaded. It does not adapt well to new types of students, new connections to labour markets, new academic fields."

However in many national systems the pressure to de-differentiate was considerable. But comprehensive universities could only work if they were extremely diverse internally, "acting as a holding company that blesses everything with a single name while allowing fundamentally different enterprises within it."

Professor Clark argued that the historically established distribution of authority and the hierarchy within national systems of higher education tended to perpetuate themselves and that convergence between them was limited. But each national pattern contained weaknesses that called for compensating efforts which therefore helped to set the direction of reform.

In Britain, for example, the obvious deficiency was a superstructure responsive to politically and bureaucratically determined central policy, and proper coordination of what was in formal terms a nonsystem of autonomous institutions. A similar

deficiency was apparent in the United States with "the largest *laissez faire* system ever developed in the history of higher education."

He identified four main patterns and principles for the organization of change. The first was the bureaucratic, which can effect change through planning and central control but typically gets bogged down in institutionalized procedure, administrative struggle, and official efforts to induce uniformity.

The second, the oligarchy of senior professors, can produce change through personal initiative and collegial planning but also produces important constraints to change through personal overload and the entrenchment of personal privilege.

The third, political, route to change can break through bureaucratic and oligarchic resistance but is also vulnerable to the influence of stultifying ideology and to the entrenchment of politically protected special interests.

The fourth of Professor Clark's paths to change, through the market, produced good results through decentralized action and forced competition. But even it became a great stationary force when institutions settled into a mutually acceptable division of labour or voluntarily became fixated on one rewarding model.

He added: "The problem of facilitating change is partly a problem of balancing such forms of linkage. No one form alone apparently will give even satisfactory results, let alone outstanding ones, despite the claims of partisans of each."

Professor Clark emphasized his support for federal and diversified systems of higher education. Conflict and competition should be encouraged even when there were strong inclinations to discourage them in the cause of eliminating overlap and duplication.

THOSE WHO TOOK PART

Chairman: Sir Alistair Pilkington.
Convenor: Prof Leslie Wagner, Polytechnic of Central London.
Authors of 'Papers Christopher Boys', Brunel University, Uxbridge; North East London Polytechnic, Brian Cane, City of Liverpool College of Higher Education; Prof Burton Clark, University of California at Los Angeles; John Davies, Anglian Regional Management Centre; Gerald Fowler, Preston Polytechnic; Prof Maurice Kogan, Brunel University; John Slater, Loughborough University; Dr William Taylor, University of London Institute of Education.

Other Participants: Christopher Ball, Keele College, Oxford; Sir Kenneth Berrill, Victoria University, Leeds; Dr William Birch, Bristol Polytechnic; Richard Bird, Department of Education, University of Texas at Austin; Donald Blyth, University of Exeter; Sir Hermann Bondi, Natural Environment Research Council; Peter Dronson, Calouste Gulbenkian

Foundation, Peter David, The Times Higher Education Supplement; Prof Lewis Elton, University of Surrey, Roatad; University of Bristol; Prof David P. Gossard, University of Utah; Prof Ronald Gutter, The Open University; Brian Gurney, Brunel University; Dr Robert Gordon, Brunel University; Dr Edwin Kerr, Council for National Academic Awards; Alfred North, Polytechnic of the South Bank; Prof Roy Sussex, Lady Pilkington, Dr Geoffrey Oldham, University of Northampton; Christopher Price, MP, Mrs Janet Price, NAITHE; Peter Scott, The Times Higher Education Supplement; Philip Whithead, University of Warwick; Prof Philip Thody, University of Leeds; Peter Toyn, West Sussex Institute of Higher Education; Prof Gareth Williams, University of Lancaster; Programme Administrator: Mrs Betty Brewer.

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The author is senior research fellow in Surrey University's Department of Adult Education.

BOOKS

Arnold and the duties of criticism

by David Daiches

Matthew Arnold: a life
by Park Honan
Weidenfeld & Nicolson, £9.95
ISBN 0 297 77824 2

Park Honan has written what he calls "a definitive biography" of Matthew Arnold. He has made use of letters, journals and diaries unavailable to earlier writers on Arnold and he has had help from "Arnold's and Clough's living descendants". He tells us that "three quarters of the biographical data in this book... has not appeared in a previous study of Arnold". He has spent ten years on the task.

Dr Honan is surely right in believing that the importance of Arnold justifies this effort on the grounds that "he has helped to form the modern consciousness". Whether we can also agree that "an understanding of him is really more useful to us than an understanding of any other Englishman of the last century" is more arguable, but the centrality of Arnold in the modern critical tradition, at least in Britain and America, is indisputable.

It was Arnold who took on the job of defining and defending the function of poetry in an age of science. In 1820 Thomas Love Peacock had written, with deliberate provocativeness, that "poetry was the mental rattle that awakened the attention of intellect in the infancy of civil society; but for the maturity of mind to make a serious business of the plaything of its childhood, is as absurd as for a grown man to rub his gums with coral, and cry to be charmed asleep by the jingle of silver bells". Shelley's reply to this charge was his *Defence of Poetry*, which is a remarkable work in its way, but the reply most relevant to later times, and one which took into account the whole question of the relation between myth and fact, between what the Germans call *Heilgeschichte* and verifiable history, was Matthew Arnold's. In 1879, seeing the factual basis of religion threatened by the new German biblical scholarship as well as by new geological and biological knowledge, Arnold wrote:

Our religion has materialised itself in the fact, in the supposed fact; it has attached its emotion to the fact, and now the fact is failing it. But for poetry the idea is everything; the fact is a world of illusion, of divine illusion. Poetry attaches its emotion to the idea; the idea is the fact.

In the 1920s I. A. Richards made a distinction between "emotive" meaning and "scientific" and "referential" meaning, explaining that "a poem tells us, or should tell us nothing, and tell the pattern of emotive meanings set up in a poem had value in communicating a valuable psychological state. Subsequent critics have refined the distinction between the kind of meaning possessed by words in scientific or factual work and in poetry, and today there are kinds and degrees of sophistication in the analysis of literary — especially the poetic — use of language that Arnold would never have dreamt of. Nevertheless, the line from Arnold to the modern critic in this matter of freeing poetry (in the wider sense of imaginative literature) from the criteria first introduced in the attack on poetry in Plato's *Republic*, is absolutely clear. Arnold concluded, from his definition of the difference between poetry and the literature of fact and from the liberation of religion from dependence on the literal truth of sacred books that more and more people would turn to the poetry, that is "the strongest part of our religion", and that poetry would increasingly become "the main spiritual resource of society". "The future of poetry is immense; because in poetry where it is worthy of our high destinies, our race, as time goes on, will find an ever surer and surer stay. This belief in poetry, or in imaginative literature generally, as the central cultural or spiritual resource of a society was, firmly held by F. R. Leavis, although he would never have said that "our race" would find in it an

ever surer stay because he did not believe that the race as a whole was capable of responding to literature with the delicacy and sensitivity that alone yielded its rewarding and enriching meaning. For Leavis, a sensitive minority of critically educated readers would preserve and enrich the literary heritage and in so doing ensure the health of society. But Arnold after all was an inspector of primary schools for the working classes while Leavis taught at Cambridge.

If poetry was to have the high destiny Arnold foresaw for it, if it was to be so central in the cultural life of a nation, then it was imperative that we should be able to discriminate between genuine and false poetry and discover and cherish the best. Arnold's search for criteria to distinguish the best poetry, even though it led him to formulations which may seem to modern critics imprecise and unduly subjective, is exactly paralleled by Leavis and his search for the Great Tradition, that group of works of genuine literary value that is alone worth studying and preserving. And it was because both critics saw imaginative literature as playing a central, if not the central, part in maintaining the health of society that the discrimination between good and inferior literature was so important. If Holy Writ were to be replaced by poetry, then you needed a canon for the latter as well as for the former and the distinction between canonical and apocryphal works would be as important for the literary critic as for the biblical student.

Of course Arnold was wrong in believing that society as a whole would turn more and more to poetry (and especially the poetry of "high culture") for spiritual sustenance. Many more people turned to the poetry of Tennyson and Whitman and indeed of Arnold himself for such sustenance than have ever turned to T. S. Eliot or Wallace Stevens or turn now to (shall we say?) Ted Hughes or Seamus Heaney. Although it is true that some sensitive religious people see the texts and rituals of their faith as in a sense poetry, and although the later Arnold's attempt to make Christianity acceptable by seeing it as involving a significant aspects of experience is very much in line with the thought of some modern theologians, it must be said that Arnold was wildly optimistic in his view of the future of poetry. This fact does not, however, in any way invalidate the importance for later criticism of his definition of the poetic use of language as distinct from that of science and the narrative of historical facts.

Arnold speaks to us today in another way too. The tension in his life and work between the imperative to be up-and-doing (inherited from his father) and the sad-sweet sense of loneliness, which emerges very clearly in this biography, and which in the end more or less silenced him as a poet, is an important part of modern sensibility. The refuge from doubt in elegiac introspection, so marvellously captured in "Dover Beach", the sense of being trapped between two worlds, one dead and one powerless to be born, is a central part of Victorian experience that continues and indeed intensifies in our own century. Arnold was however Victorian and not at all twentieth-century in the volatility of his expressiveness in personal life, his use of "dear" and "darling" in addressing male friends, his weeping and hugging and affectionate exclaiming over his children. Dr Honan does mean very fully this side of Arnold's life, and it may come as a surprise to readers who know Arnold's emphasis on disinterestedness and objectivity in his critical work. Yet it can be seen in some degree in his writing. The famous "touchstone" lines of poetry which he recommends as a test of poetic worth tend to be those expressing love and loss and loneliness, even in his quotations from Homer and in spite of his insistence that the language of Homer is "rapid, plain, simple and noble".

Arnold was not in fact right about Homer, however persuasive he sounds

in his argument with Francis Newman about how to translate him. Homer is (among other things) a stylized, formula poet who worked in a fixed tradition, a poet whose language must have sounded highly artificial to those later Greeks who saw him as the educator of Greece, an antique bard who rendered experience in a way very far from their own, but nevertheless instructive. Butcher and Lang's translation of the *Odyssey*, with its "Wardour Street English", perhaps captures more how Homer sounded in the age of Pericles or Plato than that of E. V. Rieu. Dr Honan does not go into points of this kind, nor does he discuss at all the nature of Arnold's Hellenism and its relation to the Victorian obsession with classical Greece as representing some kind of ideal to be expounded in the education of the privileged young. Indeed, Dr Honan's classical background seems somewhat shaky (although the misprinting of a Greek *upsilon* as a *nu* in a Greek quotation on page 41 may be a printer's error) and he never fully engages with either Arnold's or his father's involvement with the history and literature of Greece and Rome. However, there are other aspects of both Arnolds that he discusses illuminatingly and he does throw considerable new light on important areas of Matthew's life and thought.

There is a full account of Arnold's activity as an inspector of schools which brings out very clearly his awareness of the conditions of working-class life and his indignation at the way in which so many youngsters were forced to live. We tend to forget this side of Arnold's knowledge and concern, thinking of him as an apostle of sweetness and light and a scourge of the Philistines operating from a high on the political level. And of course he did operate from a high plane of cultural concern, but he was also keenly aware of social and economic problems. He showed great sympathy for the Paris Commune in 1870. Most of all, both in his political and more significantly in his educational and cultural interests he was fiercely against insularity and argued that English culture could only be appreciated and fostered in a European context. Dr Honan gives useful information about the breadth of Arnold's reading at different stages of his life, and if we may differ sometimes in the way the importance of the influence of a particular writer we do get a clear picture of the importance for Arnold of Epictetus, Spinoza, Senanour, Goethe, Sainte Beuve and others. The influence of Wordsworth on Arnold's social thought is well illustrated.

It is perhaps not to be expected that such a passionate admirer of Arnold as Dr Honan should attempt to rescue some of those who figure as villains in Arnold's story from Arnold's own inevitably prejudiced views of them. But it is worth remembering that the John Ruskin on whom Arnold vented such scorn in *Culture and Anarchy* was a distinguished independent politician who was responsible for many significant reforms and that Robert Lowe, who emerges from the Arnold story as almost everything to do with education and culture, was one of the English statesmen whose speech in the Representation of the People Bill on May 30, 1866, although (or perhaps because?) he opposed the proposed electoral reform, was informed with a very Arnoldian feeling for culture and society. Arnold's gift for picking syntactic enemies and making witty fun or rhetorical points, but it has left many of his later-day readers with some very biased views of these characters. If Dr Honan does not explore this, he does show the development of Arnold's polemical style and shows the influence, not least the criticism of his wife, under which it developed.

Dr Honan is excellent on Arnold's relation with his wife and with his children. He is good, too, on the relation between Arnold and Mary Claude, which is given its full significance in Arnold biography for the first time, even though his claim to have indisputably proved her to be identical with the "Marguerite" of the Switzerland poems is not established without any possible shadow of doubt: some puzzles remain.

What Dr Honan calls the bridge between Arnold's "aesthetic sense and his social experience" is interestingly handled but explored to only a limited extent. Arnold, we are told, gained authority as a social critic, since he came to know the English middle class experimentally and dined with Dissenting school managers and saw houses and shops of the middle class, day in and out. He gained perspective on media of his day, on newspapers and sermons and tracts and political pamphlets and speeches, since he saw the gap between real conditions in the country and the perennial "cleopatra" of her spokesmen. He saw bitter suffering and was drawn to his father's sense of the need to reform a smug, unequal society. His aestheticism, never diminished, but it became enriched and complicated by a sense of reality aesthetes seldom have.

This is true (though we might wish for a clearer definition of "aestheticism" and "aesthete"), but we still feel the need for further exploration of the relation between Arnold's literary judgments and his generalizations about culture and his attitude to politics. It is an interesting fact that later critics who were influenced by Arnold and shared his concern about culture and society and his view of the centrality of imaginative literature in culture — F. R. Leavis and Lionel Trilling are examples — refrained from any overt political commitment and saw cultural concern as the major imperative of educated man and the best way of illuminating the state of society. The subsuming of political interest in socio-cultural interest and the investigation of the latter solely through the medium of literature is a phenomenon of our time that owes much to Arnold, and the matter might have been pursued further.

Arnold advised the critic to keep aloof from what is called "the practical view of things" and to cultivate "a free play of the mind on all subjects which [he] touches". "By steadily refusing to lend itself to any of those ulterior, political, practical considerations, about ideas, which plenty of people will be sure to attach to them, which perhaps ought often to be attached to

them, which in this country at any rate are certain to be attached to them quite sufficiently, but which criticism has nothing to do with." Dr Honan quotes this passage, and the sentence that follows about the critic's duty to "know the best that is known and thought in the world" and to "create a current of true and fresh ideas". He comments: "The ultimate end of the critic is to change the sensitivity of a modern nation" (his italics). This is a fair interpretation, but we are left with the feeling that the idea could be probed further, and fruitfully related to a consideration of Arnold's influence on our time. (To which Dr Honan might reply that that is not the function of a biography of Arnold, to which point in turn we might counter-reply that he himself gives Arnold's central importance for later criticism as a major justification for undertaking the biography.)

Dr Honan does see and frequently emphasizes the seminal nature of Arnold's thought and ideas, and this helps to give his book a greater interest than a biography of an eminent Victorian would itself possess. Whether this is the "authoritative" biography of Arnold or not, it is a full and fascinating one. Perhaps every generation now needs to produce its own account of Arnold, not because new documents become available, but because Arnold keeps speaking to us in different ways, all relevant to our condition, and we need to keep reflecting on what sort of a man he was and on the true meaning of his life and work.

The book is written in what might be called a mid-Atlantic style, not always employed with felicity. There are Americanisms like "insightful", "homology" and "engineer" (for cogine-driver), inelegant hybrids like "monocausal", and odd stylistic devices such as suddenly calling Tony Foscato, who has already been mentioned many times, "the red-headed exile" or equally suddenly calling Clough, again after he has been frequently mentioned, "the handsome black-eyed Clough". In spite of oddities and ineffectualities, this biography of Arnold is a rich and rewarding work which should be read not only by scholars of nineteenth-century English literature but by all interested in the fashioning of modern critical attitudes.

David Daiches is emeritus professor of English at the University of Sussex.



Matthew Arnold

BOOKS

Isolated sanctuaries

Farming and Wildlife
by Kenneth Mellanby
Collins, £9.50
ISBN 0 00 219239 X

The marbled white, the high brown and the dingy skipper, the brown hairstreak and the green hairstreak, the pearl-bordered fritillary, dark-green fritillary and silver-washed fritillary — over the past 30 years, all of these beautiful and increasingly rare species of butterfly have disappeared from the Monks Wood National Nature Reserve near Huntingdon.

Their disappearance caused no great surprise. Excellent though it may be to fence and control the land on which particular species happen to breed, this is frequently by no means enough to guarantee their welfare. Many birds, butterflies and other beasts require that any nature reserve be managed in some way that was not understood until it was too late. Or they may have needs that can only be satisfied in the wider environment.

Professor Kenneth Mellanby was the first director of Monks Wood Experimental Station, from 1961 to 1974. And in his new book on the threat to wildlife posed by farming he sets much store by the role of nature reserves in resolving the conflict that is raging between conservationists and farmers. But while he rightly emphasizes the need for reserves to be managed correctly, he does not explain how isolated sanctuaries could ensure the survival of species vulnerable to natural catastrophes if the reservoir populations outside reserves were sacrificed to agricultural "improvement". The Nature Conservancy Council put it like this in *Nature Conservation and Agriculture* in 1977:

For the present and for the foreseeable future, many plants and animals in nature reserves will need to be supported by outside populations. Since about 80 per cent of the land surface of Britain is in some kind of agricultural use, conservation of wildlife on the farm is crucial for wildlife conservation in the country as a whole.

Yet Professor Mellanby pins his hopes on nature reserves while trusting in little more than advice and education for farmers to protect wildlife in the rest of the countryside. It is clear, however, that farmers are not going to conserve our wildlife just for the asking. Woodland removal, wetland drainage and the rest of the catalogue of conservation catastrophes increase farmers' incomes, and since farmers are as human as the rest of us, they tend to put their own economic interests before the conservation priorities of the nation.

Of course, it is easy to see why Professor Mellanby is tempted to settle for what is in effect a policy of despair. For neither the Government nor the two conservation agencies, the Countryside Commission and the Nature Conservancy Council, has shown any sign of bringing to the subject the radically different attitudes it needs. What they are prepared to do is to create reserves and seek to educate farmers in the needs of conservation. Professor Mellanby displays a strong distaste for contingency. With menacing figures like Hume and Popper around, the safest haven is with Kant. Von Weizsäcker goes so far as to believe that "any one who would analyse what conditions are at all possible would have been able to show that these conditions already entail all the general laws of physics" (page 176). The fact that Kant believed that he had deduced from such considerations the necessity of the axioms of Euclidean geometry should give one pause. This does not however, deter the author from the hope that quantum mechanics could be produced out of this a priori hat. I am extremely sceptical of such efforts. They always involve post hoc

of the impact of modern farming methods on wetlands contains no reference to the Somerset Levels, perhaps the most urgent of current cases. And he declines to give any data on the loss of ponds on the grounds that no nationwide survey has been carried out. There may have been no national survey, but there are several area studies that, together with evidence on the decline in numbers of wetland creatures like frogs, toads and newts could have enabled a book like this to find something to say. The picture Professor Mellanby gives is also limited by his failure to recognize any significance in wildlife conservation other than in zoological terms.

Professor Mellanby, as a scientist, sees the wildlife problem above all as one of preserving species. So it does not matter too much if a large part of a population disappears provided some members survive somewhere. This approach is all too deeply rooted in the official mind as it is: the Nature Conservancy Council, for example, has been all too happy to write off the countryside outside sites selected to embody a representative range of habitats or to harbour rare species. The new Wildlife and Countryside Bill reflects the same thinking: the only land that will really be any better protected once it has been passed will be our existing Sites of Special Scientific Interest (SSSIs), which cover just 6 per cent of Britain's land surface. Yet even if we could preserve all our species on special sites, we would not conserve them in the way in which people can be allowed to appreciate them.

Take the frog. The common frog is not yet in danger of extinction as a species on the British list, but it is fast becoming extinct as part of our way of life. According to a scientific study carried out in 1974, frog populations have declined by more than 99 per cent in some parts of England, most of the blame inevitably falling on the loss of breeding sites through the filling in or drainage of ponds and dykes. If the frog is disappearing as part of our everyday experience, it will profit us little that it should survive on reservations, viewable only in artificial, zoo-like conditions in which the joy of discovery and surprise are unknown. All those who use the countryside as a reservoir of spiritual refreshment need wildlife to survive as an integral part of the rural environment.

Marion Shoard

Marion Shoard is author of "The Theft of The Countryside".

Limits to physics

The Unity of Nature
by Carl Friedrich von Weizsäcker
Faber & Faber, £11.00
ISBN 0 374 28100 9

C. F. von Weizsäcker was a theoretical physicist before he became a philosopher. His change of subject was motivated by the realization that "it is easier to do science than to understand it", together with the hope that philosophy would provide the conceptual clarity which had been lacking. I do not think that this book substantiates that expectation.

Ironically one of von Weizäcker's best known contributions to nuclear physics was a semi-empirical mass rule for nuclei. As a philosopher he displays a strong distaste for contingency. With menacing figures like Hume and Popper around, the safest haven is with Kant. Von Weizäcker goes so far as to believe that "any one who would analyse what conditions are at all possible would have been able to show that these conditions already entail all the general laws of physics" (page 176). The fact that Kant believed that he had deduced from such considerations the necessity of the axioms of Euclidean geometry should give one pause. This does not however, deter the author from the hope that quantum mechanics could be produced out of this a priori hat. I am extremely sceptical of such efforts. They always involve post hoc

There are, however, some omissions. Professor Mellanby's account



Photograph of a physician, probably taken during the period 1868-82. Illustration taken from A Century of Japanese Photography, a collection of photographs introduced by John W. Dower, published by Hutchinson under the auspices of the Japan Photographers Association at £25.00.

rationalizations of less than compelling power and generous helpings of hope for what future labours might produce.

We are told that the unity of nature is due to the universality of physics. Yet such a thoroughgoing reductionism makes von Weizäcker uneasy and there are compensating overtones of pan-psychism. "Consciousness and matter are different aspects of the same reality" (page 152). It is supposed that this is illuminated by the observation that each is concerned with the structure of events. That strikes me as a sort of structural reductionism which is unconvincing. Allied to this is an overplaying of verbal parallels. The comparison of the One of Parmenides and the lack of separability in quantum mechanics revealed by the Einstein-Rosen-Podolsky paradox sheds light on neither.

Von Weizäcker is fascinated by time and by language and has interesting things to say about them. As one might expect of a pupil of Bohr and Heisenberg, when it comes to the interpretation of quantum mechanics, he is a strict Copenhagen man. I found that disappointing. Surely a valid question is the "semantic consistency" (a favourite phrase) of classical measuring instruments within a quantum theory, a level shift which we do not understand.

While the clouds of philosophy have been billowing round the study, those endowed with the "careful naïveté" which is at times conducive to research" (page 121) have been making extraordinarily beautiful discoveries about the contingent "unity of nature". It is astounding that a book with that grand title published in 1981 should make no reference to the quark structure of matter or the unification of particle interactions. The only whiff of nearly modern physics is provided by frequent reference to Heisenberg's ill-fated non-linear spinor wave equation of the 1960s.

The book is composed of occasional pieces, a few hitherto unpublished but mostly lectures or contributions to *Festschriften*. (Someone once defined a *Festschrift* as "a collection of second-rate papers by first-rate people".) However suitable such a procedure may be for the journalist it is unfitting for a serious pursuer of knowledge like von Weizäcker. What we need is a sustained campaign, not a series of skirmishes trampling the same ground again and again. The book is needlessly repetitive and its discussions, forced by their origin into a brief format, unnecessarily compact, a recurring refrain being "that philosophically important question lies beyond the scope of this essay".

John Polkinghorne

John Polkinghorne is a fellow of Trinity College, Cambridge, and an Anglican clergyman.

Microbe mystery

Jenner's Smallpox Vaccine: the riddle of vaccinia virus and its origins
by Derrick Baxby
Heinemann Educational, £8.50
ISBN 0 435 54057 2

The eradication of smallpox from the Earth is, by any standards, one of the great public health achievements of all time, and it is strange, therefore, to recall that it was achieved by means of a vaccine which dates back some two hundred years. Besides this, it was discovered empirically, its origin is lost in the mists of eighteenth-century and early nineteenth-century medical practice, and, strangest of all, the nature of the vaccine used, even today, is far from clear.

In fact, vaccinia virus is not a vaccine in the strict sense but rather the causal agent of a separate, if usually localized and relatively harmless, illness. Like Melchizedek, it is "without father and without mother", and this is the *raison d'être* of Derrick Baxby's book, in which he seeks to unravel, at a distance, the origin, and hence the nature, of this micro-organism. Dr Baxby is an authority on the orthopoxviruses, as vaccinia, smallpox and their relatives are called. They are related in that infection with any one of them confers on the subject immunity to infection with the others.

Since smallpox has now, as far as can reasonably be ascertained, been wiped out on the Earth, and the only surviving virus is in a few well-guarded laboratory deep-freezers, why should this matter, except as a question of intrinsic interest to virologists? In any case, every schoolboy knows about Edward Jenner vaccinating a boy with cowpox material, because a milkmaid had told Jenner she was immune to smallpox. Ever since Jenner, the cowpox virus has been used for immunization against smallpox.

Every schoolboy is, however, probably wrong, certainly so far as the present-day vaccinia virus is concerned, since it is manifestly different from present-day cowpox, with which it was thought for many years to be identical. So why should this matter? Smallpox may in fact have had its day, but we still cannot be certain that some other poxvirus may not step in to take its place; and so the more we know about their interrelationships the better. Monkeypox, for example, can cause a disease in man clinically like smallpox, but without any marked tendency to spread from man to man.

As Buxby points out on page 193, recent analysis of the genetic material in these viruses have shown that the DNAs of smallpox, cowpox and vaccinia are so different from each other that it is most unlikely that any one emerged from any other, or from a cross between the other two. The author makes a convincing case for believing that the agent originally adopted was not cowpox but horsepox, and that this was the missing ancestor of vaccinia.

Of course, just to confuse the picture, all the strains of vaccinia virus need not have been the same, and in fact cowpox may have occasionally been introduced. Surprisingly, the relation between horsepox and vaccinia does not seem ever to have been worked out, perhaps because of the scarcity of horsepox today, and it may have been at large in a small animal vector as well. No doubt DNA analysis will throw light on this also.

The book is well illustrated and eminently readable. It throws light on the interplay between some of the human personalities involved, as well as on the microbial hero of the book. At the end of the day, it must be admitted that, in spite of all Dr Baxby's scholarship, vaccinia remains a shadowy figure, even if less so than before. The book is pleasantly free from more technical language than is necessary. It is valuable as a piece of medical history and as a study in the history of science; it is also intriguing as a microbiological "whatdunnit", or, as one should perhaps say, "whatdunnit".

A. P. Waterson

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THES

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BOOKS

UNIVERSITY
PRESSESElectoral
reform

The People and the Party System: the referendum and electoral reform in British Politics
by Vernon Bogdanor
Cambridge University Press, £20.00
and £6.95
ISBN 0 521 24207 X and 28525 9

Vernon Bogdanor begins his timely book with the observation that, perhaps uniquely in the West, the main source of legitimate authority in Britain is the representative system, and the party structure that embodies it. This underpins all our constitutional arrangements. We have no theory of the state which results in a strong body of public law, as in Germany, nor the *étatiste* tradition which in France allows a major role to a powerful bureaucracy.

Yet the party system in Britain and the electoral arrangements which sustain it have seldom come in for much critical scrutiny. For a long period the system and its varied consequences have gone unquestioned, almost to the point where it assumes the status of a major constitutional convention. But recently the decline and evident failure of the two-party Westminster model of parliamentary government – once a model to be imitated, now an example to be avoided – has produced a number of studies designed to educate British opinion towards reform. To this task the author brings a strong historical sense and thorough scholarship. Rather narrower than S. E. Finer's seminal study of adversarial politics, yet wider-ranging than the recent *House of Commons* report, it appears when electoral reform has more support than at any other time in the postwar period. It will do much to further the debate.

This said, I was somewhat surprised to see that the book devotes about a third of its length to the theory and practice of the referendum in Britain. It has always seemed that the three examples of its recent use were all evidence of the malfunctioning of the ordinary representative process, and that electoral arrangements which permitted wider canvassing of public opinion would have made them unnecessary. But the author proves to be aware of the limitations of this device, and its origins within the present party system. The referendums on continued UK membership of the EEC and on devolution to Scotland and Wales owed nothing to representative theory and everything to the ills of the Labour Party. They were devised to allow it to maintain a spurious unity. That their results were beneficial I do not doubt; in so far as they allowed the present party system to continue for a few more years, they were perhaps in the long term counterproductive.

The more valuable section of the book is on electoral reform. Space prevents me from commenting at length on the historical scholarship which the author brings to the subject of the British electoral system. How many people know that we got the present arrangements in 1918 by default, because agreement could not be reached on an alternative? How different the political landscape would have been if reform had happened then. The "vicious social, regional and economic" consequences of the present system are dealt with, and there is a section on alternatives and their political consequences which reinforces the claims of the single transferable vote system.

There are perhaps two points that are worth taking up. It is often said that electoral reform is a search for a liberal solution in an increasingly illiberal age. To this the reply is that nothing which does not improve on and extend the liberal tradition of this country is likely to succeed – viz the present administration and the

more illiberal alternative that is on offer. The other associated criticism is that such preoccupations ignore the existence and immutability of the real power centres in the nation. To this I would reply that the relations between power and public opinion are complex, and not amenable to a Marxist or sub-Marxist analysis. Reform of the centres and readjustment in their attitudes is impossible when they are linked so strongly to the present artificial political structure. But things can change – to take one brutal example, if we had had proportional representation over the last twenty years there would be a strong body of labour law on the statute book to which by now the unions would have adjusted, for the reason that they could never again muster a parliamentary majority to take it off for them.

The prospects for reform are rather more hopeful than the author admits. The political situation has become more fluid in the time that he has taken this book to be written. Not whether, but when, the reforms come about is now the question.

S. A. Walkland

S. A. Walkland is professor of politics at the University of Sheffield.

Dreams of
violence

Crisis of the European Mind: a study of André Malraux and Drieu la Rochelle
by Barrie Cadwallader
University of Wales Press, £15.95
ISBN 0 7083 0759 0

By concentrating on Malraux and Drieu la Rochelle and showing how their work reflects a crisis in European thought, this book attempts to give a political study of the intellectual climate of the 1930s. Why these two writers? Because, says Cadwallader, they were seen as "left" and "right" wing figures who both shared the view that western civilization was threatened with collapse in the aftermath of the Great War. Both men were tempted by dreams of violence as an antidote to personal, and political, frustrations. The "Asiatic question" figures largely in this book, as it does in the works of Malraux, and Cadwallader seeks to show that it was "an ideological crucible in which political attitudes were being fired".

The tableau depicting the intellectual crisis of the time is convincing enough: the trench warfare of 1914-18 destroyed traditional concepts like patriotism and the nation-state, as surely as it destroyed the unfortunate infantry. Einstein and Freud were in their different ways just as destructive. The key-note was struck by Spengler in *The Decline of the West*. It seems hardly surprising that some writers should have been tempted by eastern mysticism as an alternative to western materialism. Others turned to a more form of mysticism, the mysticism of the East. This was not only reactionary Catholics like the Messias who saw Leninism as part of the "Asiatic threat". If Cadwallader has no difficulty in persuading the reader that there was indeed a crisis of the European mind in the 1930s, his treatment of some aspects is less convincing. The chapter entitled "The Awakening of Asia" is thin and could well have been omitted.

But in other respects the book offers more than the personalized title leads one to expect. There is for example an excellent account of the argument between Barbusse and Rolland on the subject of socialism and violence. This constitutes a classic debate on the subject – as relevant today as it was then – and on the general problem of the role of the intellectual in politics. Here we also find a genuine example of "Asiatic" thought offering an alternative form of political action: Gandhi's non-violent resistance, which Rolland saw as a means of preventing the violence which he feared was imminent in Europe. By the 1930s we see that Rolland had moved close to Barbusse's pro-Soviet position. He was persuaded not by Barbusse's arguments but by the rise of fascism, his mistaken belief that western democracies would not fight against it led him to join those left-

wing intellectuals whose "anti-fascism" meant reticence on certain aspects of Soviet reality. Drieu la Rochelle plays a large part in the narrative not because of his intellectual power – his "philosophy" was grotesque – nor because of his literary talent but because, Cadwallader argues, he was a representative figure. In him we can trace the evolution of a bizarre phenomenon, the fascist mentality: so bizarre in his case that the truth is almost a caricature. Physically puny, he developed an obsession with muscular fascism which would bring "réforme physique"; he decried all around him, and believed that fascism would sweep it aside. His ideology was flexible enough to allow him on the eve of defeat and suicide to transfer his allegiance to the more "virile" Soviet victors. He was, Cadwallader concludes, a victim of his own mythology.

Malraux is shown as the creator of "fascist" characters, but since their heroic individualism is seen to fail, the novels are to be seen as a rejection of the fascist solution. Few would argue with Cadwallader's statement that Malraux's novels are not "revolutionary" works of art although revolution is their theme – the alienation which his heroes feel is metaphorical – that is, it transcends any social conditions. Detailed notes compensate for the lack of a bibliography; this book is an illuminating study of a crucial period of intellectual history.

Anthony Kelly

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German
recovery

The Political Economy of Germany in the Twentieth Century
by Karl Hardach
University of California Press, £13.50
ISBN 0 520 03809 6

Economic history these days is becoming a very recherché business of intricate economic models and lots of numbers, some good and some imaginary, which are applied to a set of rather limited questions. Although some of the research is of a very high standard, it never seems to try to offer an overall view of economic change and certainly gives short shrift to non-economic considerations. So it is a pleasure now and then to get back to some old-fashioned political economy. Karl Hardach's book is sound rather than inspired; not particularly strong in theory, it does devote a great deal of space to the institutional framework within which the various German economies worked.

One of the best features of the book is the description of the working of the East German economy, much the most successful in the communist bloc, achieving a rate of growth in the 1960s equal to that of West Germany (though at a lower absolute level of course). The Eastern Zone suffered severely from war damage and dismantling of plant by the Russians, yet rapidly had the stock of capital grown between 1936 and 1944 that, even after all those depredations, in the late 1940s it was still above the 1936 level. All the same, the Russians took a big slice of the cake; since dismantling was carried out so incompletely, they turned to appropriating current output and until 1953 mopped up a quarter of total East German production in reparations and occupation costs.

Still, when recovery really got under way, the early pattern of highly centralized planning with its accompanying low productivity and poor quality control soon gave way to more decentralized planning with new pricing structures, interest charges applied to fixed assets, and with increased emphasis on the profit record.

Hardach does not have all that much to say about the West German economic miracle, or the economy without miracles, as the Germans themselves prefer to put it. Industry invested first in fields with a low capital-output ratio and won quick

returns. They preferred to borrow technology rather than indulge in expensive research and development. Hardach offers the traditional account of the unique qualities of management and labour; we are inclined always to seek a new explanation but maybe Hardach is right and the reality is as simple as that. On the other hand he is too generous to the German governments of the 1920s. His analysis of the economics of the great inflation is accurate and comprehensive but surely there is now ample evidence that German politicians deliberately avoided taking the effective action within their power simply to escape reparation payments. Many would now argue too that Keynes was not wholly right in his scathing diatribe over the demands for reparations made at Versailles and that Germany could have paid more than she did.

There is an interesting contrast here between the two postwar periods. After World War I the problem was not so much one of increasing internal taxation in order to raise the money but one of transferring the funds across the exchanges by exports or reduced imports. After 1945 this was not a difficulty because the Allies soon abandoned their demands for reparations in that sense and Germany had to pay occupation costs which involved only minimal transfer. In any case Marshall Aid was forthcoming in the form of gifts rather than the loans of the 1920s.

Hardach's account of the Nazi period is very judicious with much attention given to the mechanics of control. He emphasizes that even in such a vicious totalitarian state, the Nazis were very concerned about adverse public opinion. They had promised butter as well as guns and wanted to deliver, with the result that the economy was never as fully geared for war as the British. The mobilization of resources was also limited by the Nazi concept of the role of women in society, and the female labour force hardly rose at all during the war.

This is not an exciting book. The English is very strange in parts, using words like "remarkitization" and making casual throw away remarks such as "World War I was a fairly costly affair". All the same the effort needed to work through it is worthwhile.

S. B. Saul

Professor Saul is vice-chancellor of the University of York.

Lexical
circles

The Theory of German Word Order from the Renaissance to the Present
by Aldo Scaglione
University of Minnesota Press, £14.62
and £6.17
ISBN 0 8166 0980 2 and 0983 7

The old tag "Where can I a steak become?" pokes fun both at lexical interference and at the "perversity" of German word order. The latter is excruciatingly difficult to learn, and grammarians have found it to be extraordinarily elusive and complex to describe, analyse and explain. Professor Scaglione, already an expert in the history of grammatical theory, in this book traces with diligence and fairness grammarians' views, giving thorough coverage from 1500 to 1800 and judiciously chosen samples from 1800 to the present.

The facts, now generally accepted, are: first, the distinction between independent or main clauses and dependent or subordinate clauses; second, the pivotal function of the verb in the ordering of the sentence elements; third, the principle of capsule adhesion to the finite (finite, participle, particles) in the main clause and by the subordinating conjunctions and the finite verb in the subordinate clause; and fourth, the principle, valid mainly in the modern phase, that what is to be de-emphasized is preceded by what determines it. One difficulty that has hampered recognition of the basic patterns has been that a word order may be absolute, (that is, grammatically determined) or may be determined by non-obligatory factors



Michelangelo's Apollo-David, from the Museo Nazionale, Florence, reproduced from Michelangelo and the Language of Art, by David Summers (Princeton University Press, £28.95)

such as style, rhythm, emphasis or intonation. Furthermore, the search for one overriding principle to prove a wild-goose chase. German is typologically mixed like most languages and more so than many.

Although incapsulation was recognized as early as the sixteenth century, the distinction between the finite and non-finite parts of the verb was not made before the end of the seventeenth. When at the beginning of the eighteenth century main and subordinate clauses came to be distinguished, this was done in a logical not a grammatical sense. Through that century French thought with concepts of the "natural" (V-Object) linear order (Subject) – Verb (Object) was dominant. When at the end of the eighteenth century the German principle of "qualifier before the qualified" was discovered, its forced application to the whole of German syntax led to contention and confusion. Early in the twentieth century the importance of the verb position was recognized. But as German has basically exhibited the same two-fold pattern (second phase of the finite verb in the main clause and subordinate clause) ever since the inception of literacy in the ninth century, the search for an explanation had to be pushed back to Proto-Germanic and Indo-European. The present typological approach sees the solution in the assumption of an original SOV order, basically preserved in the subordinate pattern, and a gradual transition to an SVO order now established in the main clause but still influenced by the device of incapsulation.

No doubt there is room for further links to be added to the long chain of theories. Some are now suspect, such as that of the Latin influence. That such theories need not be as dry as dust but can be shown as evidence of man's unending search for comprehension and explanation is Professor Scaglione's achievement.

R. E. Keller

R. E. Keller is professor of German language and medieval German literature at the University of Manchester.

BOOKS

UNIVERSITY
PRESSESWomen's
counter-
universe

The Woman's Part: feminist criticism of Shakespeare
edited by Carolyn Ruth Swift Lenz, Gayle Greene and Carol Thomas Neely
University of Illinois Press, £10.50
ISBN 0 252 00751 4

Man's Estate: masculine identity in Shakespeare
by Coppelia Kahn
University of California Press, £10.50
ISBN 0 520 03899 1

"Fortunately," say the editors of *The Woman's Part*, "feminist criticism of Shakespeare is still too new to have established any orthodoxies." This makes it difficult to define feminist criticism of Shakespeare. It can be simply a matter of writing sympathetically about Lady Macbeth, Cressida, Gertrude and the women maltreated by Richard III, as do several of the contributors to *The Woman's Part*. Or it can take the more sophisticated form of Coppelia Kahn's study of masculine identity problems from a psychoanalytic point of view.

Predictably, perhaps, in each of these books there is little sympathy for Othello the wife-killer or Prospero the patriarch, while *The Taming of the Shrew* has to be explained away (Dr Kahn actually understands it as a satire on the male urge to control women). Only one of Shakespeare's feminist critics, however, finds him of little service to the cause: Clara Claiborne Park concludes in *The Woman's Part*, "To consider that Shakespeare's comic heroines have something to tell us about the twentieth-century feminine image would seem to be academicism gone overboard." In all other cases, by fair means or foul, he is turned to advantage.

As a collection of critical essays, *The Woman's Part* is uneven in quality as it is varied in topic and approach. Carole McKewin writes perceptively and effectively about those intimate scenes in which women have the stage to themselves, creating their "counter-universe" within the male-dominated world of the play at large. Gayle Greene and Rebecca Smith are persuasive apologists for Cressida and Gertrude respectively, while Charles Frey speculates interestingly about the variations on the Shakespearean theme of fathers, daughters and sons-in-law. But Lorie Jerrell Leininger's version of *The Tempest* as a tale of colonialism and slavery surely protests too much in describing Miranda as the sexual bait that Prospero exploits in order to subjugate Caliban.

Of all Shakespeare's men, however, Othello comes off worst. "Were it not for Othello's initial vulnerability to Desdemona he would not be susceptible to Iago's machinations," writes Madelon Gohlke. "Having made himself vulnerable, moreover, he attaches an extraordinary significance to the right way of writing about love. Carol Thomas Neely also omits something of importance to the play by treating Othello and Iago as if they were morally indistinguishable: 'Vanity is the central characteristic of coxcombs and is at the root of the men's murder-ousness'."

In *Man's Estate*, Coppelia Kahn approaches an approach to theories of individuation and the achievement of sexual identity. It is well argued and often subtle in insight. Briefly, the argument is that Shakespeare shows a critical awareness of patriarchal culture, in which the social dominance of men is in tension with their psychological and emotional vulnerability to women, producing distorted conceptions of manliness

and polarized fantasies of idealized or degraded womanhood. By extrapolation from theories of infantile experience, Dr Kahn traces through Shakespeare's work the continuous struggle of male characters in adolescence and maturity to form and maintain an identity.

In these terms she makes a fresh and ingenious interpretation of the ambivalent attitudes to love in *Venus and Adonis*. The problems of loyalty to the father is the theme of a rewarding chapter on the history plays, while Macbeth and Coriolanus are fairly obvious grist to her mill. She is less convincing on *The Shrew*, as already mentioned, and on *Romeo and Juliet*, where the importance of the patriarchal feud is exaggerated: Romeo's allegiance to his father's cause is hardly an issue in the play. Inevitably, Dr Kahn's clinical approach to the plays tends to obscure their moral conflicts, but even non-feminists will find her book a stimulus to thought.

D. J. Palmer

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Portrait of
Barry

The Life and Art of James Barry
by William L. Pressly
Yale University Press, £30.00
ISBN 0 300 02466 5

James Barry (1741-1806) is now primarily remembered for his irascible tendency to alienate his fellow artists (he is the only Academician ever to have been expelled by the Royal Academy) and for his subsequent tragic eccentricity, living in a derelict house in Castle Street that was constantly vandalized.

He was deemed of those valiant (and ultimately doomed) fighters for what he saw as the essential truth about painting, that it should act as a civilizing social force "determined to transform a culture and its institutions from the ground up". It was a goal that was to be shared by many later artists and writers, particularly Haydon and Ruskin. For Barry this transformation was to be effected through history painting, the representation of elevated themes taken from history or the classics (usually the latter, in his case) and to this end he dedicated himself with exemplary industry and self-denial.

Yet Barry, like Haydon half a century or so later, was to find that the British were (and remain) largely indifferent to historical offerings. Barry seemed to the public at large to be a worthy cause – but little more. Mr Pressly offers a number of plausible reasons for this lack of interest but he does not, understandably, touch upon what is surely the real reason for Barry's neglect: his pictures are, for the most part, very poor things, devoid of that inspiration and authenticity of lived experience that transforms mere artistry into art.

One of the minor, if unintended, virtues of Mr Pressly's admirable study is that it is punctuated by visual comparisons between Barry's works and those by other artists that were either used as source works, or were influenced by Barry's pictures in turn. In all of these comparisons, whether they be with Benjamin West, Blake, Banti, Lombardo or even, Gilray, Barry emerges the loser. With the exception of a few portraits, notably *The Distribution of Prizes at the Society of Arts* (which Mr Pressly rightly claims to be "one of the finest... created by a British painter") Barry's pictures constantly display a lack of coherent form and structural unity, a weak grasp of anatomy and a poor sense of invention. His talents as a portraitist, on the other hand, are sometimes so fine that one can only mourn his subservience to that aesthetic class-stricture which categorized history painting above portraiture and thus demanded that the "serious" painter should direct their efforts toward it. Only a few of the *Milton* drawings and etchings really escape this capture and that perhaps because Barry totally identified with Milton who, like himself, endured a

miserable old age, rejected by society.

Mr Pressly's book is superbly written and presented. He is for the most part, judicious in his appraisal of his subject, being alert to Barry's deficiencies as well as his virtues. Only occasionally does his enthusiasm lead him to claim more for Barry than is perhaps prudent – as in his appreciation of the *Portraits of Barry and Burke in the characters of Ulysses and a Companion* which removes nothing so much as one of those painted cardboard backgrounds which one used to stick one's head through in fairground photo booths and most part the author offers a well-rounded portrait of Barry, with an excellently thorough exposition of the pictures, a convincing grasp of the painter's underlying political sensibility and a fine appreciation of those aspects of his personality that ultimately led to his downfall at the Royal Academy (and not the least of the book's virtues is the extent to which it demonstrates that Barry was the victim of an Academy cabal to get rid of him for exposing mediocrity).

Barry was a tragic figure, a romantic, impassioned sensibility, predestined by circumstance of birth and training to be conceptually chained to the millstone of history painting. His over-estimation of his abilities (he regarded himself as superior to Raphael) and his ever-present paranoia led him to consider those who did not share that high regard as "conspirators", "scum" and "offal". These deficiencies in his personality significantly contributed to his undoing, although as Mr Pressly indirectly makes abundantly clear, his paranoia did sustain him – without just such a mental defence poor Haydon perished.

Eric Shanes

Eric Shanes is the author of "Turner's Picturesque Views of England and Wales" and "Turner's Rivers, Harbours and Coasts".

Sustained
nostalgia

St David's and Dewi Island: a social history
by David W. James
University of Wales Press, £9.95
ISBN 0 7083 0797 3

Few sites are more remote or more beautiful than the cathedral of St David's. "We come", as Francis Kilvert wrote, "to the end of the world where the Patagon Sea of Wales sleeps by the Western Sea". 1981 is the eighth centenary of Bishop Peter de Leia's rebuilding of the cathedral and to mark it David James, formerly headmaster of St David's County School, has written a social history of the area.

His book is a sustained exercise in nostalgia. It is a sign of the times that his school is now called Ysgol Dewi Sant, for the Welshness of the Welsh heritage is much honoured. Yet there remains a strong feeling that Welshness has its roots in a rural society, and that it flourished most vigorously and naturally in the farmsteads and cottages of a bygone age. This longing for a Welsh past David James expresses in lyric tones.

He is proud of the cathedral but has little feeling for Anglican worship, and what he has to say about cathedral and county remains cold and formal. It is continuity that he values: Henry Phillips was parish clerk for 30 years, and was succeeded in 1827 by his grandson, John Phillips, who held the office for 68 years. He is deeply moved by the growth of nonconformity, and his account of the local chapels is written with enthusiasm. Even when he is talking of the regional demographer or most engaged, he has an eye for the wider audience for which the book is intended) is already familiar. An introductory chapter on "Population in Transition" is followed by successive treatments of mortality, nuptiality, fertility, population structure and economic activity, migration and population redistribution. Each is highly condensed, covering its topic in a dozen pages, with due emphasis on the strong international contrasts

farmer built one on his own land because his wife could no longer walk to the chapel where they had worshipped in their youth. David James is at his best with personal detail of this kind.

His deepest sympathies lie with those who combined the safe calling of the sea. The trade of the little ports around St David's Head, schools in the city for training young mariners, retired captains at their leisure, and, above all, the long toll of ships lost on the cruel local coast: these features emerge most vividly. Even in the heyday of these sailors, the scale of their operations and the size of their ports and ships were all too small for permanent success. Nostalgia can be held in check by the recognition of reality. Welsh history was proverbial, but even at the beginning of this century had to drive the rats from the parlour before he could sit down. Two hundred years earlier, Thomas Jones, a bachelor farmer, bequeathed land and money to Mary Green, his "bed-fellow".

Neither the cathedral, nor Calvinist doctrine, nor Wesleyan preaching could subdue the ancient and irrepressible vigour of Welsh life.

David Walker

David Walker is senior lecturer in medieval history at University College, Swansea, and canon and precentor of Brecon Cathedral.

Fertility
decline

Demographic and Social Change in Europe 1975-2000
by Maurice Kirk
Liverpool University Press, £9.50
ISBN 0 85323 114 1

The "Europe" with which this book is concerned is wholly confined to the demographically disparate member states of the Council of Europe, which in 1973, instituted a Committee for Population Studies and, in 1978, ordered a major review of the population prospects of member states to the year 2000 and beyond. It omits all reference to the eastern, socialist states, where demographic problems of equal intensity, variety and complexity are to be found. Maurice Kirk's book reviews the committee's findings with the praiseworthy objective of making them available to a wider public. It is designed "to take stock of the demographic situation and trends in Council of Europe member states and to identify their economic and social implications".

This is a formidable task to attempt within 120 pages, given the wide range of demographic conditions to be found among member states; indeed, any generalization for Europe as a whole tends to break down when applied to individual countries. Thus, for example, the study rightly emphasizes the fact that "since the 1960s fertility rates in most European countries have fallen sharply and... the total population of Europe is approaching a standstill". While this is undoubtedly true in general terms, its demographic, social and political impacts will differ widely between, say, West Germany where, in 1978, the Crude Birth Rate (CBR) was 9.4 per 1000, the Crude Death Rate (CDR) 11.8 and there was a natural decrease of 0.24 per cent, and the Republic of Ireland with a CBR of 21.7, a CDR of 10.3 and a natural increase of 1.14 per cent. Such contrasts are a major theme throughout the book, indicating that predictions at the European level are compounded of vastly differing national situations.

The bulk of the volume deals with the current situation and with recent trends and thus covers ground which, to the regional demographer or population geographer (if not to the wider audience for which the book is intended) is already familiar. An introductory chapter on "Population in Transition" is followed by successive treatments of mortality, nuptiality, fertility, population structure and economic activity, migration and population redistribution. Each is highly condensed, covering its topic in a dozen pages, with due emphasis on the strong international contrasts

which still exist between member states. A good deal of space is taken up in the definition of basic demographic terms, an essential for the general reader.

Most valuable are the two concluding chapters which deal with the prediction of demographic change in the century. As the author points out, "the general response to the present fertility decline has been one of relief" but problems still arise from the aging of the population and from regional imbalances in labour supply and demand. These problems affect national population policies and attitudes towards migration movements between countries. The crux of the matter is emphasized in Kirk's conclusion that the social and economic problems of 1975-2000, though influenced by demographic trends, centre mainly on regional differences in levels of development, job opportunities, investment rates and standards of social provision – matters which must increasingly be viewed in a European rather than a narrowly national context.

John Dewdney

John Dewdney is reader in geography at the University of Durham.

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BOOKS

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India

The Writings and Speeches of Edmund Burke
volume five: India; Madras and Bengal 1774-1785
edited by P. J. Marshall
Clarendon Press: Oxford University Press, £55.00
ISBN 0 19 822417 6

Although Edmund Burke had spoken on the subject of India in previous years it was only during the late 1770s and early 1780s that India came to occupy a place among his major interests. This volume, the fifth of the planned 12-volume Oxford edition of his works and the first of four volumes to be devoted exclusively to India, illustrates the origins and early development of Burke's views on how Britain should govern India. It also reveals the growth of a personal obsession.

This volume contains every work relating to India which was published during the period and which can reasonably be attributed to Burke in the light of recent research, and includes two items which have not figured in previous collected editions. One of these – the 1782 Observations from the first report of the Select Committee on India – is fairly well known. The other – *The Policy of Making Conquests for the Mahomedans* (1779) – is an attack on the policy of aiding one Indian ruler to conquer the territory of another, and is notable for several principles: a statement of universal principles; a statement of the "ferocious rapacity of Mahomedan despotism"; which contrasts oddly with Burke's subsequent praise of Muslim government as being essentially a system controlled by law; and a curious argument to the effect that while it was bad to conquer for one's own benefit it was much worse to conquer on behalf of someone too weak to conquer for himself.

Second, the volume contains a selection of the most important speeches which Burke delivered on the subject of India. The texts of the speeches are carefully recovered from contemporary newspaper reports, Burke's papers, and the *Parliamentary Register*. The speeches themselves illustrate the best and the worst of Edmund Burke. There is the statesman, guiding his philosophy with 24 carat phrases; there is the lawyer, orchestrating facts, language and arguments to form his powerful case; and there is the self-indulgent windbag, moving the Commons to boredom and jeers, a phenomenon well revealed in the speech on Almas Ali Khan. On the whole the sensitive reader will prefer Burke with pen in hand to Burke at the dispatch box.

In his valuable introduction, Peter Marshall, Rhodes Professor of Imperial History at King's College London, poses and answers some fundamental questions about Burke's interest in India. First, did Burke act principally from self-interest or intellectual conviction? Intellectual conviction, he answers. Second, was Burke the unconscious instrument of self-interest? To a limited extent, yes, answers Marshall; but Burke quickly freed himself from simple self-interest of this kind by making himself master of the available information on India.

A third question might be: did India provide Burke with a necessary cause, in the same way that it subsequently served men so different as Henry Cavendish, Keir Hardie and Winston Churchill, or as Ulster serves Mr Enoch Powell? Perhaps there is a higher form of self-interest. If so it is one which yields an interior satisfaction rather than more obvious benefit. Banging the Indian drum won Burke few friends. As he commented sadly in 1785, "the subject, at one time taken up with so much fervour and zeal, is no longer a favourite with this House." Nor was it ever to be again.

Whatever his motives Burke contributed what Professor Marshall terms "a body of ideas which is a landmark in the debate about imperial responsibility". Burke's diagnosis was that the people of India were being ruined by the unrestricted political and economic activities of Britons operating under the slack authority of the incorrigible East India Company. For this state of affairs he proposed two main remedies: that Indian society should be left alone – "men must be governed by those laws they love"; and that Britain must exercise the strictest control over those who wielded power in India. Although both his diagnosis and remedies were questionable they exerted a strong influence on the supporters of British rule and on its opponents. The purification of Indian government under Cornwallis, the end of the company's monopoly of trade, and the late nineteenth-century critique of British rule in India could all be traced in part to Burke.

To those hitherto obliged to peer into the Bohn edition of Burke's works (so dismal a disharmony would never have escaped Burke) the handsomely laid out, carefully edited pages of this new edition will give great pleasure. Without being oppressive the editing provides all required information even to translations of Burke's Latin and Greek quotations. It is indeed what one would expect from the greatest living expert on Burke and India.

M. E. Yapp

Dr Yapp is senior lecturer in the history of the Near and Middle East at the School of Oriental and African Studies, University of London.

The final
conflict

Antichrist in the Middle Ages: a study of medieval apocalypticism, art and literature
by Richard Kenneth Emmerson
Manchester University Press, £22.50
ISBN 0 7190 0829 8

A scholarly history of apocalyptic speculation in the Middle Ages which concentrates on orthodox Catholic views of Antichrist has been much needed. This book meets that need.

We have already had studies, excellent and valuable in themselves, of more or less heretical, particularly Joachimite apocalyptic prophecy by Marjorie Reeves, and of revolutionary millenarianism by Norman Cohn. But in these the main, central eschatological tradition, itself complex and elusive, tends to get lost; while in Christ-Christendom, the few remarks on the earlier tradition misleadingly impinge on the medieval view. In fact this tradition only begins, sporadically, in the fourteenth and fifteenth centuries with radical heretics, such as the Lollards and the Hussites, and does not become a general norm until the Reformation, while of course the traditional Antichrist continued among Roman Catholics into the seventeenth century. This is firmly established in Emmerson's last chapter, which deals very briefly with this later period, being intended merely to make clear the contrast between the Reformers' Antichrist and the medieval one.

The medieval Antichrist was not the personification of an existing institution, such as the papacy, but an evil man whose coming in the last days was predicted in scripture. In the Bible Antichrist is named only in St John's Epistles (1 John, ii and iv; 2 John, 7); but such texts as Christ's and St Paul's warnings against future false prophets (Matthew, xxiv; 1 Thessalonians, ii) and, above all Revelation, especially the beasts in chapter xii, were taken to refer to him. From these sources, combined with early medieval prophecies, such as the Pseudo-Methodius *Revelations*, a relatively full and stable Life of Antichrist was constructed, though of course it appears with many differences of detail. This Life, in outline, is as follows:



A vision of the Pentecost, from the Bibliothèque Nationale in Paris. It is taken from John Black Friedman's *The Monstrous Races in Medieval Art and Thought* (Harvard University Press, £14.00).

Antichrist will be born of a Jewish whore in Babylon. He will both persecute Christians, and try to mislead them by claiming to be Christ and performing lying wonders. He will be opposed by Enoch and Elijah (neither of whom died), whom he will kill. He will be destroyed by Christ or His agent on the Mount of Olives while unsuccessfully trying to imitate the Ascension.

The central part of this book examines in detail the many variations on this theme in theological works, drama and poetry, and in art, mainly in manuscript illustrations. One reason why there are so many interesting variations is that the character of Antichrist, as given by his biblical and prophetic sources, contains a contradiction: he is both a violent and cruel persecutor of true believers, and a hypocrite who imitates Christ's life and miracles so successfully that he will "if it were possible, deceive the very elect" (Matthew, xxiv, 24). This contradiction is already present in his name (which Emmerson does not discuss): *Antichristos* in Greek might mean either "opposed to Christ" or "instead of Christ". Medieval writers on Antichrist therefore had the choice of presenting either a cruel tyrant or a diabolic parody of Christ, or some combination of the two.

This contradiction is also reflected in the typology of Antichrist. These types, like those of Christ, are real historical persons, who were also designed by divine providence to refer symbolically and prophetically to a similar, more perfect person still to come. The types of Christ, such as Isaac or David, are almost entirely confined to the Old Testament; but those of Antichrist could spread into the secular history of later times, since he was still in the future. These clearly the split in his personality: for example, one of the most conspicuous biblical types, Simon Magus (Acts, viii, xviii), prefigures the deceiving hypocrite, spinning Christ's miracles, while an equally famous secular type, Nero, foreshadows the bloody, persecuting tyrant. This flexible typology, not limited to the past, resulted in new types constantly enriching the tradition. Any powerful person one disliked or feared, emperor or pope, king or heresiarch, could be made into a tyrannical or hypocritical type of Antichrist.

This book is to be recommended to all serious scholars of the religious thought of the Middle Ages. It provides a great deal of reliable information on an important subject in a short space, and, especially in view of the very complex and confusing nature of Christian eschatology, does so in a lucid and orderly manner.

D. P. Walker

D. P. Walker is professor of the history of the classical tradition at the Warburg Institute, University of London.

The rules
of war

Humanity in Warfare: the modern history of the international law of armed conflicts

by Geoffrey Best
Weidenfeld & Nicolson, £15.00
ISBN 0 297 7737 8

Morality and Foreign Policy
by Kenneth W. Thompson
Louisiana State University Press, £12.60
ISBN 0 8071 0656 9

Masters of International Thought
by Kenneth W. Thompson
Louisiana State University Press, £12.00 and £4.20
ISBN 0 8071 0580 5 and US\$1 3

Professor Best's remarkable book will appeal to lawyers, historians and political scientists who are interested in the international dimension of their disciplines. His theme is clearly stated:

If there are to be wars... it is certainly better for the warring parties, and probably better for mankind at large, that the persons fighting should observe some prohibitions and restraints on how they do it. (pages 1-2)

Professor Best emphasizes that his book is not a discussion of the "just war" (*ius ad bellum*) but of *ius in bello*, on the grounds that its history deserves scholarly treatment if only to demonstrate that "the law of war has done more good than harm".

He begins with an examination of the influence of the Enlightenment publicists on both the idea and the practice of humanity in warfare, rightly emphasizing that those who thought and wrote about this subject in the eighteenth century shared a homogeneous and cosmopolitan background with those whose business it was to fight wars. Such wars have often been described as limited wars for limited ends, in contrast to the earlier wars of religion and those which in later centuries became increasingly ideological in character. No doubt the relatively static nature of military technology in part explains the restraint observed in the conduct of eighteenth-century warfare, but Professor Best is surely right to point to the influence of thinkers such as Emmerich de Vattel in particular on the attitudes and military conduct of the ruling elites. Vattel's achievement was "to complete [the law of war's] detachment from exclusive connection with the concept of the 'just war', and plausibly justify its independent existence and moral value, irrespective of whether 'justice' was to be found in a war or not".

The chapters that follow discuss the impact made upon the conduct of war by the French Revolution and the growth of European nationalism, and the attempts via conference diplomacy at Geneva and The Hague between 1870 and 1914 to adapt the law of war and maintain its humanitarian relevance in an age of mass armies and increasing civilian involvement and vulnerability. The book concludes with an account of the inroads made into the law of war by twentieth-century developments in military technology and the problems raised by the issue of resistance to military occupation and the indiscriminate nature of modern aerial warfare. A final chapter is devoted to the post-1945 period and the implications of the Additional Protocols of 1977 and the Geneva Convention of 1949.

This bald summary does scant justice to the complexity of Professor Best's analysis. It is rare to find a work which demonstrates a commanding grasp of so wide a subject and dramatic when the occasional demands (as in the account of Sherman's role in the American Civil War) of the terse and compelling in delineating the arguments advanced by a fascinating gallery of lawyers, soldiers and diplomats struggling over the centuries to reconcile the demands of "necessity" with the claims of morality. This is interdisciplinary analysis at its best.

Professor Thompson also has many interesting things to say about the moral dilemmas forced upon statesmen by the exigencies of international politics. He belongs to the American "realist" school of international thought associated with the writings of Hans Morgenthau and Reinhold Niebuhr and in *Morality and Foreign Policy* he offers a clear, unambiguous statement of his assumptions underlying their thinking. There is, first, a recognition that moral values are not easily translated into clear guidelines for political action, and, secondly, an unwillingness to believe in the virtue of prudence as "the wise application of the principles of justice to the contingencies of interest and power in political life".

Professor Thompson illustrates his argument with case studies drawn from the historical experience of American foreign policy. The book's one weakness is repetitiveness: several of the chapters have appeared elsewhere – thus the author has not altogether succeeded in blending his findings into a coherent and systematic account.

Readers wanting a more diverse account of the traditions of the western international thought might well consult Professor Thompson's *Masters of International Thought* where the writings of thinkers ranging from Martin Wight to Karl Deutsch are carefully and sensitively examined. This is a basic study text, but one which will have served its purpose if undergraduates are encouraged to delve more deeply into the intellectual history of their subject.

J. E. Spence

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BOOKS

UNIVERSITY
PRESSESElizabethan
moralists

Society and Religion in Elizabethan England
by Richard L. Greaves
University of Minnesota Press, £23.00
distributed by Transatlantic Book Service, £23.00
ISBN 0 8166 1034 4

Professor Greaves, having mastered some five hundred religious books published in England in the Elizabethan period, has produced a very large work of description and analysis. From what at times must have seemed a morass of repetitious exhortations he has drawn out the opinions of moralists (chiefly, though not exclusively, clerics) on all aspects of their society from the cradle to the grave. Their comments on sex and marriage, the family and education, work, worship and recreation, social conduct and social order, poverty, economic and legal problems and, lastly, on holy dying, all in turn receive his attention.

With the reception of Protestantism he detects a new emphasis on the family and a slow improvement in the position of women – now more often seen as junior partners with their husbands in leading their households along the path of right religion. Nevertheless, despite the revolutionary (and, as it proved, permanent) change from Catholicism to Protestantism on Elizabeth's accession the hierarchical ordering of society persisted essentially unaltered and religious writers of all persuasions combined to reinforce what they continued to apprehend as the great chain of being.

Not content with this very substantial feat of compilation Professor Greaves has gone on to assess the extent to which Elizabethans obeyed the teaching of their mentors. Did they, he asks, both adopt the primary tenets of Protestant theology and attempt to practise them in their daily lives? On the whole his conclusions will not much surprise those who have worked in this field. At least in certain influential sectors of society the last forty years of the sixteenth century saw a marked development of Protestant piety which this literature simultaneously encouraged and fed. Education more and more came to be seen as morally good and endowments of schools and colleges flourished as never before.

On the other hand, the reformers do not seem to have achieved any noticeable success in curbing conspicuous expenditure or in substantially increasing voluntary alms-giving. While some eventually contented their age and acquiesced in the taking of moderate interest, but here they were patently following and not initiating a trend. In the superhuman task of imposing Protestant morality, orders of society they seem to have made no measurable advance at all.

Had Professor Greaves confined himself to a topic-by-topic analysis of Elizabethan religious literature, his study would have remained relatively uncontentious. His determination to categorize his authors at once introduced an element of controversy. He fully appreciates the complexity of Elizabethan religious society which he catches as a spectrum shading from Catholic recusancy, Catholic survivalism through conservative Protestantism, to committed Protestantism, Presbyterianism and Separatism but still insists upon dividing his Protestant writers into Puritans and (as he recognises, anachronistically) "Anglicans".

There he will undoubtedly raise some questions, particularly since he fails to explain the reasons which led him to assign different clerics to different camps except for suggesting that Puritans were Protestants who had undergone a fundamental religious conversion. (In fact he seems to have dubbed all ministers who accepted high office

in the church as "Anglicans" though the possession of a parochial benefice was not precluded him from classing lower clergy as Puritans: the line of demarcation between "Anglican" and Puritan lay people appears even more arbitrary.) On the credibility of this distinction between "Anglicans" and Puritans his whole thesis stands, for only by distinguishing Puritans in this way can he maintain that they had a coherent social philosophy which can be contrasted with that of the "Anglican". That he so frequently discovers convergencies between Puritan and "Anglican" social attitudes could equally well demonstrate that Elizabethan Protestants, excluding Separatists, held very similar views on society and that their Puritan and "Anglican" dichotomy is not only unhelpful but unreal.

Apart from these reservations on the debate over "Anglicans" and Puritans which has latterly engaged American and Canadian scholars much more than their British counterparts, it must be acknowledged that this weighty compendium contains a wealth of useful, intriguing and occasionally provoking information on a number of aspects of Elizabethan society. Professor Greaves must be applauded for the industry with which he has sought out the views not only of the major Elizabethan religious writers of the calibre of Jewel, Whitgift and Hooker, Cartwright, Browne and Perkins, but also of a great many lesser-known authors in the same sphere.

It has in addition both in his very detailed notes and in his bibliographical essay provided a valuable guide to recent publications on Elizabethan religion and society from both sides of the Atlantic.

Claire Cross

Dr Cross is senior lecturer in history at the University of York.

Exemplary
hero

An Exemplary History of the Novel: the Quixote versus the picaresque
by Walter L. Reed
University of Chicago Press, £13.50
ISBN 0 226 70683 4
Reflections on the Hero as Quixote
by Alexander Welsh
Princeton University Press, £8.80
ISBN 0 691 06465 2

If Don Quixote did not exist it would be necessary to invent him. Or, rather, bearing in mind the way in which for three centuries writers and readers have been remaking him, we should say that even if Don Quixote did exist it would be necessary to invent him. One way or another these two books all continue the process of inventing Quixote.

Walter Reed begins by taking seriously Harry Levin's proposition that *Don Quixote* is "the exemplary novel of all time", that is by locating it at the beginning both of a history of the novel and of a theory of the novel. The two things amount to the same thing. It will not be by a "poetics of fiction" that we will define and contain the essential features of the novel. What the novel is must be traced only through relations between the novels which compose its history. This has to be the way to define a genre that is resistant to the idea of genre. The novel is, in Quixote's phrase, an "outsider model", or in Reed's, a "stranger to literary decorum." "It is," Reed says, "the idea of a novel confronting literary tradition that is of the essence." This is the definitive thing, the sense of an opposing form, opposing to the conventional literary forms, the "forms" of everyday life, opposing its own forms to the forms even of other novels. Thus the history of the novel must be by precedent and imitation but by the intentional "mismatching of forms immediately experienced with forms more remote and traditional."

At the outset of its history in sixteenth-century Spain this principle of opposition was generated by the confrontation of two modes, the picaresque (signalling the "exclusion" of literature, of culture, of social codes) and the quixotic (ironically inclusive, entertaining and containing, with scepticism, alternative versions of experience, even that of the picaresque itself). And the pattern of opposition is one that must be renewed at each succeeding stage in the novel's history. Thus it is the "stabilization" of the novel in mid eighteenth-century England that leads Sterne to redouble his efforts to make the novel novel again. And what he achieves by doing so is "a particular tribute to the precedent of Cervantes's *Don Quixote*." By estranging itself the novel re-establishes contact with its essential nature.

The beauty of Reed's argument is that it is deployed on the side of the non-institutional, the un-sanctioned, "the excluded and humble viewpoint of the half-outsider." Alexander Welsh takes up this attractive position also, if anything with even greater success. He starts from a brilliant insight into the nature of quixotic heroism: that it is related to "the quest for justice and the endurance of practical jokes." The quixotic hero is identified as Abraham Adams (and indeed the biblical Abraham), the Vicar of Wakefield, Mr Pickwick, Julien Sorel, Joseph K., and others. They are studied not as we may the Quixote, but studies them, typologically, but interrogatively. In asking what the vain pursuit of justice and other foolishness should command respect, Welsh's fine attentiveness to the text leads him into the deepest questions about human values. He pursues them in a series of intensely concentrated "reflections": justice is best understood in terms of our instinctive response to injustice; injustices catch us by surprise and call for decisions outside the law; the pursuit of justice cannot be institutionalized; it belongs with "the powers of the weak," a "liminality" a threshold or marginal experience which "serves to counterbalance the highly structured and hierarchical institutions of society". Even more so does the passive theme of justice, which is the enduring of practical jokes: in so far as these are motiveless, or "demonstrative" (and they often are), or an expression of the force of "circumstance", they are a perspective of reality. The "quixotic" heroism, the heroism of the victim, is an acceptance of realism. "History" and theories of "historical realism" erect against this heroism a teleological fiction, a consolation of ends. But quixotism keeps on asserting the realism of defeat, and the identity that is to be found in defeat. "The drag of history and culture upon us is always that of identification with something, but... everyone has only marginal being, considered strictly as an individual. The final realization is that 'a quixotic identity is actually not worth anything', since value is measured in hierarchical terms, the terms of one generation's power over the next. Yet it may be the only strictly individual identity that is available."

Once in a while the "English" practice of literary criticism, giving priority to each fresh encounter with a text, produces something of an altogether larger significance. Christopher Rick's *Keats and Embarrassment*, say, or Tony Tanner's *Adultery in the Novel*, or Gay Clifford's *Transformations of Allegory*. This book is remarkable even in such company. Nothing in it is easy, least of all the affirmation of identity; invaluable value. In its thorough independence of all dogmas, whether coercive or consoling, it is a work of exhilarating and deeply moving originality.



Daumler's Don Quixote

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John Preston
John Preston is professor of English at the University of Warwick.

Queen vs
Commons

Proceedings in the Parliaments of Elizabeth I, volume one: 1558-1581
edited by T. E. Hartley
Leicester University Press, £38.00
ISBN 0 7185 1181 6

For more than a quarter of a century, a filing cabinet in an office in Tavistock Square has housed a priceless collection of Elizabethan parliamentary documents in typescript. They include some of the earliest private diaries of proceedings kept by MPs and many separate speeches. Many of these items were located by the late Sir John Neale and all were transcribed by Neale and his research assistants, notably Miss Helen Miller and, briefly, myself. These were some of the prime sources plundered by Simon D'Ewes in his *Journals of all the Parliaments During the Reign of Queen Elizabeth* (1682), and these rather than D'Ewes provided the basis for the second and third volumes of Neale's Elizabethan parliamentary trilogy. Now Dr Hartley has worked from both the Nealeian transcripts and the original manuscripts to bring to press what may be regarded as a massive appendix to Neale's *Elizabeth I and her Parliaments 1559-1581* (1953).

As Dr Hartley points out, Neale have completed this work with a further volume covering the later Elizabethan Parliaments (1577) might have chosen to spend the remaining years of a life of continuously productive scholarship in preparing a critical edition of these sources. Instead, he concentrated on a parallel enterprise, the forthcoming Elizabethan section of the History of Parliament which in spite of its title is no more (and no less) than a complete biographical dictionary of the membership of the House of Commons. There has been public debate about whether those years were well spent. But it would be as true to say that Neale's choice of priorities was made much earlier, when he decided to exploit his discoveries in writing the highly readable historical prose of which he was an admitted master. His friend Wallace Notestein took the other path where the ways divided and launched those editions of early Stuart parliamentary diaries which are the glory of North American seventeenth-century scholarship. But *Elizabeth I and her Parliaments* was not only history designed to be read as literature. Its major contribution was to predate Notestein's "Winning of the Initiative

by the House of Commons", presenting Elizabethan parliamentary history as an incessant conflict of wills and ideologies, the Queen versus the Commons, and especially its puritan Members.

For some time now the word has gone out from the University of Cambridge that Neale's selective dramatizations involved a distortion of the true record. Professor Elton insists that Parliament was an instrument of government and a principal "point of contact" in the Tudor polity. Its main function was legislation, most of it wholly lacking in dramatic quality or constitutional import. Some of those MPs identified by Neale as radical puritan opponents of the regime have recently been recast as "men of business", government trustees. Dr Hartley hints at these developments "signs of a vigorous re-examination of problems" – but his only concession to them is to remind us of the limited scope of Neale's study, which was "never intended to be a systematic analysis of Parliament's work, only part of it".

But where the current critique of Neale's approach to parliamentary history impinges most directly on this undertaking is in Elton's doctrine that materials of the kind assembled in this volume, for all their lively and personal character, are not a proper starting point for the understanding of parliamentary procedures and business, which must be pursued through bills in draft and acts in print, and in the official journals. So the question should be faced whether Dr Hartley and his publishers are in danger of knowing what on this somewhat rigorous view can be represented as the surface reflections and reflections of what the proceedings in Parliament properly were. The question is the more apt because the editor has kept his *apparatus criticus* to a tolerable minimum, so that the diaries and speeches are not "earthed" to the more fundamental record.

A final point of substantial pedantry: to date this volume 1558-1581 seems to infer the permanence of Parliament as a constitutional constant, which of course it was not. Elizabeth's first Parliament was summoned for 23 January 1559, the date employed in Neale's title.

However, it would be churlish not to welcome this handsome version of what remain precious sources. To say the least, this volume is a great deal more accessible than a filing cabinet in Tavistock Square.

Patrick Collinson

Patrick Collinson is professor of history at the University of Kent.

YALE

Sir Joshua Reynolds Discourses on Art
edited by Robert E. Wark

The Discourses of Sir Joshua Reynolds form one of the most eloquent literary documents in the history of European art. "An indispensable book on the literature of art," Lawrence Alloway, *The New York Times*. Published for the Paul Mellon Centre for Studies in British Art. 24 illustrations, £5.95.

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A. M. Nagler

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Don's diary

Monday

A bright day and an early start. To Bristol as convener of the Leverhulme seminar on institutional change and adaptation, the third in the series examining the future of higher education. A seminar of this sort is a delicate operation, its success depending on getting the correct balance of people and providing the appropriate structures for a useful discussion. Have I got it right? Time will tell. First a meeting with the chairman Sir Alastair Pilkington and the inquiry director Gareth Williams. Most of the procedural matters are settled pretty quickly. The most difficult decision is whether we should have tea in the meeting room or take the five minute walk to the dining room instead. In the end we decide to make the 40 or so participants walk.

The sessions are loosely structured around specially commissioned papers. The idea is to let discussion flow without too much constraint. My role is to take copious notes and to present a summary on Wednesday morning which will form up some recommendations. Until then I take a virtual vow of silence. I had wondered beforehand how I was going to restrain myself from participating. In the event it is no problem. The sheer effort of concentration in trying to write down what other people are saying suppresses all desire to participate.

Tuesday

A heavy day the first session starting at 9.15 and the last finishing some 12 hours later. The only breaks are for food and drink but these too are hardly periods of relaxation. The deadline discussions are anything more intense than the official sessions.

We are housed in the Regional Management Centre of Bristol Polytechnic and one of the other events taking place is a course entitled "How to Start a Small Business". I am reminded of David Steel's recent comment that with this government the best way is to start with a large one. On the other hand more than one academic might be found enrolling on such a course in the next few years.

Tenure and staff mobility are the major issues of the morning. At the discussion ebbs and flows I think back to my first job in higher education at the Open University some 11 years ago. Coming from outside the system I remember not understanding the principle of tenure. On being asked whether I preferred a five year contract or tenure I could only conceive that the alternatives were a five year contract or a *ten* year contract. I naturally took the longer term and subsequently was perplexed to receive a letter offering me an appointment until the year 2008! I wrote back saying there must have been some mistake.

As the discussion touches on the ancient intricacies of the legal implications of abolishing tenure, I wonder how much my letter would have been worth if the OU had been abolished in the early 1970s. I suppose you cannot have tenure in an institution which no longer exists. In the event Margaret Thatcher kept the enterprise alive and would no doubt wish to be remembered for that rather than some of her other actions as Education Secretary. How quaint "milk snatcher" sounds a decade later. "John Snatcher" seems more relevant epithet in the harsh realities of the 1980s.

By the end of the day exhaustion is creeping up on everybody. Away to my room to prepare the report for tomorrow morning. Everybody is very solicitous. Which image should I cultivate in response to their sympathies? Effortless Oxbridge, suggesting it will all be dashed off in half an hour, or protestant working ethic suggesting in all night session? The reality turns out to be midway

between the two and it is sometime after 2 o'clock when I climb into bed.

Wednesday

The day begins with some hasty re-writing. That brilliant insight at one o'clock in the morning seems a little less so in the cold light of dawn. Gareth and I agree that the strategy is to present participants with the policy implications of their discussions and to push them as far as they are prepared to go. Inevitably there is a little drawing back but overall the views on the changes required over the next decade are surprisingly radical.

By lunchtime it is all over and fatigue brought on by a sense of release takes over. Participants leave saying how worthwhile it has been and the research advisory group settle down for a post-mortem and planning of future meetings. By 5 o'clock am falling asleep, give my apologies and take the next Inter-City 125 to London. Arrive home to find everybody in bed with colds and flu. Decide the only sensible thing is to join them.

Thursday

Back to the real world of PCL. The accumulated post includes the usual quota of reference requests from past students and an increasing number of memos from colleagues signalling their return from vacation. Most pleasing there are the proofs of my book which Macmillans have been promising for some time now.

The main events of the morning are the September examination board for our modular Social Science degree followed by a staff meeting. Should we accept the late submission of an essay as part of continuous assessment? The student concerned is on a border pass/fail and our decision will determine whether she can proceed to Part II. Compassion is the order of the day.

As usual the beginning of term staff meeting is a pleasant affair. The tensions and arguments of last year are, for the moment, forgotten. Added to which we report that admissions for the 140 students coming into the first year closed two weeks early. Even the UGC cuts have a silver lining. But how long will it last? The spectre of Heseltine even looms over an obdurate and defiant ILEA. The arguments we are having within the polytechnic over allocation of minute extra resources brings to mind the re-arrangement of the chairs on the Titanic.

Friday

This is the difficult day as students come in to receive the results of their re-sit examinations. Spend time with the casualties helping to pick up the pieces. This year as always there is at least one for whom the implications are disastrous and no amount of sympathy provides consolation.

It is hard to dispel the gloom and the concerns of Bristol seem light years away. By the afternoon other preoccupations have taken over. A colleague reminds me that I promised him my reading list for a new course we are teaching this year. I manage to locate my note and eventually the list emerges. My note pad indicates a host of research queries which need to be settled but they will have to wait till next week. So will the final arrangements for our freshers induction. The weekend beckons. Bristol won't go away, for the write up of the seminar for publication is now an urgent item on the agenda. That however can wait for Sunday. Meanwhile the day of rest approaches. Thank God for the Jewish Sabbath.

Leslie Wagner

The author is Professor and Head of Department in the School of Social Sciences and Business Studies, Polytechnic of Central London.

Writing in a recent issue of *Science*, Professor Allan Bromley, of Yale University, reminded us that "in American Indian culture, one of the surest indications of impending disaster was the tribe's decision that, in order to survive, it was necessary to eat the seed corn - in the full knowledge that this doomed the crop of the following year".

By analogy, modern American society faces a similar threat in its failure to reproduce adequately its human and financial investment in its academic and industrial research and development. Successfully competing in an increasingly technological world requires a constant commitment to the kind of capital investment that will have results only in the future. American society has had such a short-term focus that it has been willing to neglect that capital expenditure in order to satisfy the demands of current consumption. In that sense alone it is dooming the future, just as surely as the Indians did.

The issue is focussed in many places. The most obvious and urgent is in the Reagan budget proposals for the federal Government. Balancing the budget by cutting expenditures is politically popular, as eating the seed corn surely was. But that is also a short-term answer, for the cost of budget balancing is to destroy America's research enterprise.

The problem is not only in the area of research in the humanities and the arts - those things that provide the justification for a society's survival. The budgets of the National Endowment for the Arts and the National Endowment for the Humanities were cut almost in half. The problem also exists in the sciences and technology. Whether through inadvertence or forethought, the national science budget was cut altogether in the recent reconciliation bill. The only research enterprise now left intact in Washington is in the massive new defence budget. Each generation may be said to have the right to elect its own priorities as long as the implication of those choices are retained within the impact on that generation. But the evolution of science requires the accumulated work of many generations building on each other, pulling together the threads of work begun in the 19th century, deoxyribonucleic acid or DNA was discovered in the 1940s. This led to the discovery of the structure of DNA in 1953 by Watson and Krick, which in turn led

Eating the seed corn of technology



George Rainsford

to the unraveling of the mysteries of genetics.

Much of this research would have seemed to a bureaucrat from the Office of Management and Budget as being without practical value - a mere indulgence in academic scientific curiosity. But it has produced a revolution in modern biology with its attendant industrial possibilities of genetic engineering, much the same as discoveries in solid state physics did for the advance of communications. The absence of one generation of academic research from the process would have delayed, or perhaps thwarted, either or both revolutions.

The matter is critical even on the industrial side. Many nations, including Japan, West Germany, and the Soviet block are now spending vastly larger proportions of their national budgets on research and development to the point that the United States is rapidly losing its preeminence as an industrial nation.

Undergraduate science education has also lost out in the battle of budget priorities in Washington in what can only be described as a classically puny victory for the budgeteers. Indeed, it is ironic that Washington professes such faith in tax reductions to solve our budget ills, and yet fails to see that cutting

the supply of educated scientific and technological manpower may deny to American society the human resources to take advantage of economic growth.

Finally, it is only to be hoped that a blind commitment to social democracy will not further erode our commitment to enforcing standards of mathematics and scientific literacy in our nation's elementary schools and high schools. Technological literacy may now be as important as reading and writing, and history, in the definition of an education citizenry. And it was to achieve that citizenry necessary to the working of a democracy which impelled us to establish the public school system in the first place.

The assumption in the federal case back in research is that private foundations and private industry will pick up and finance the slack. Unhappy, foundations with endowments cut in inflation are cutting back programmes and staff and have turned more to social issues, relying on the government or industry to finance technological free enterprise is not willing to invest adequately in its own research and development, it is most certainly unlikely to come to the rescue of university research.

The universities, on the other hand, have done little by way of establishing their own priorities. While the fields of economics and the hard sciences do have excellent employment opportunities either in or outside the academy, universities are continuing to produce PhDs in fields where there are not these opportunities. All of which leads to the mistaken notion that education has a more than adequate supply of educated manpower.

In a curious way we have come full circle. From an earlier dependence on human resources to conquer the frontier or settle a new nation, we came in the nineteenth and twentieth centuries to rely on a vast and seemingly inexhaustible supply of natural resources. Now, toward the close of the twentieth century, we have become almost a have-not nation in terms of most resources other than food. The vast reserves of America today is again being used to brain power to cut off the future of the country from the full effective use of that resource for a short-term budgetary achievement is to mortgage the future to the preservation of the present, just as surely as did the Indians by eating their seed corn.

being squeezed to death and then urged to sell their property to the highest bidder. The Government fondly holds an "agreement" to hand over, free, grants and so forth. Britain's prime city centres. When the CATs were handed over 23 years ago, it was all part of a deal to start the block grant and give local councils autonomy. Now all they're going to have to hold is a referendum on rate rises and goodness knows what else, cooperation is less likely to be forthcoming. Of course, Sir Keith could just nominate the pols without compensation - but that might run both counter to the instincts and into real problems in the House of Commons. My personal advice would be to adopt the all-party suggestion from the select committee: ignore the means for the moment, and just get on with setting up a public sector body without nationalizing, legislation, compensation or anything else.

Involving bigger money - £250m or thereabouts, if the learned Mr A. A. Irvine QC is to be relied on in "Making Dons Redundant." Until Dr X from Aston, or Brunel or Salford or wherever, has had his test case fought through the courts, it will not be clear whether Mr Irvine is right about the real dimensions of Sir Keith's fiscal-legal problem. I haven't the faintest idea how these QCs can tell these things; in cases with a political fringe on top like this one, especially when no one's ever tried to make a don redundant before, it all depends at the end of the day on what our venerable law-lords have had for breakfast; how do you decide on damage done to a 47-year-old chemical engineer, when you are a 74-year-old Lord of Appeal?

Then there's the public sector - Model A and Model B and all that. The money side of politics here is beautifully glossed over in the official Green Paper (as opposed to the *THESE*-leaked one which put the problem more brutally: "Agreement would have to be reached on the conditions under which formerly maintained institutions would pass into new ownership"). This must be the most deliberately naive sentence written by a civil servant in 1981. At a time when local authorities are

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Advice to the new Fellows



Christopher Price

To have one Fellow of All Souls in charge of our higher education is remarkable; to have two, as Lady Bracknell would have put it, seems like either carelessness on the part of the Prime Minister, or perhaps some deep laid plot to jerk the department out of its intellectual torpor. In any event it would be churlish not to welcome Sir Keith Joseph and the Hon William Wadsworth to their respective dizzy heights, and Dr Boyson to his new pedagogical responsibilities. He never seemed to relish higher education and can now concentrate on comprehensives and corporal punishment.

But Sir Keith and the Hon William come to a department with problems. The Decline and Fall of the Department of Education and Science dates back a full decade when Wilson started to use the department as a dustbin for ministers who lost out at cabinet, ministerial

chairs and Peter Walker invented a system of local government which effectively subordinated Education to Environment. Since then the decline has continued. Wilson, in his second innings, continued to have annual and unmemorable ministers (now, it seems, a Thatcher habit) and the subordination within the Whitehall machinery has proceeded apace. The Manpower Services Commission looms over the 16 to 19-year-olds, the Department of Employment has got hold of the open tech, the Department of Industry has taken over computer education and the training of engineers.

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LETTERS TO THE EDITOR

Islam's real distinction

Sir - Prabhu Gupta's article on "Islam's new mind in the making" (*THESE*, September 18) brings out, unintentionally I think, the fundamental contradiction in the effort he describes to apply "Islamic criteria" to the finding of Western "secular" knowledge. The article, like the World Conferences on Muslim Education which it refers to, makes a misleading distinction between religious, Islamic thought on the one hand and secular, Western thought on the other. Such a distinction may exist, but it is not basic to the problem of scholarship nor to that of the adjustment, while it involves a false characterization of Western thought as "secular".

The real distinction is between an ideologically-premised, *a priori* approach to scholarship and a non-ideological, methodologically rigorous approach. The central tradition of modern Western scholarship corresponds to the latter method: secularism has nothing to do with the matter. Many great Western scientists have been deeply religious men and women who have interpreted the phenomena they have studied in terms of their beliefs; but they have not allowed this to interfere with their research any more than their secular-minded colleagues. Bias there has been and is, of course, but the point is that it has always resulted in bad scholarship. Secularism and the scientific method are no more and no less in harmony than religion and the scientific method.

The real problem lies, not with belief, but with reference to some supreme authority above reason. Marxism, for example, is a thoroughly secular system but Marxist

scholarship, to the extent that it is ideologically based, is unscientific. Conversely, the work of the Christian fundamentalist colleges (to which Dr Gupta refers as models for Islamic institutions) will always remain suspect because of the heavy *a priori* basis of any research carried out in them.

Rather than waste so much time, money and effort in attempting to create new "Islamic concepts" or in "reclassifying knowledge according to Islamic criteria", Muslim scholars would, I feel, do better to come to terms with the real nature of the scientific method as applied to a wide range of disciplines. The value of this method lies precisely in its independent character. It may be used, well or badly, by a Jew as easily as a Muslim, a Quaker as easily as a Marxist, an Eskimo as easily as a Zulu. The moment we introduce revealed sources of knowledge - the Qur'an, the Bible, *Das Kapital* - into this framework we deprive it of its basic virtue.

This is not, in the end, a mere matter of methodology. Much more is at stake, not least in an era when critical rationalism is under attack from many sides. Soviet Russia is only the most obvious example of what happens when ideological criteria determine the direction and even the conclusions of research, particularly in fields such as history or sociology. The attack on reason must always involve an attack on the most basic liberties, on the freedoms of thought, speech and publication. Yours sincerely, DR. DENIS MACEOIN, Lecturer in Islamic Studies, University of Newcastle-upon-Tyne.

Making decisions

Sir - The article by Peter David (*THESE*, September 18) states that universities have been "fatally limited" in responding to the recent cuts by, among other things, their democratic procedures. I believe this is misleading. With regard to decision-making the internal structure of universities is concerned, among those who provide in-service teacher education, decision is not necessarily democratic. Although many universities have attempted to move away from highly centralized to more representative managerial structures, research has shown that such structures are more geared for discussion than decision (Feldman, 1973). At the same time an earlier collegial model, which emphasizes informal consensus, persists particularly at higher organization levels and the two do not work easily together. Research has shown also that almost everyone in universities believes that decisions are taken by someone else (Noble & Pyh, 1970).

Actually there is a good deal of discussion within a contrived representative structure containing an illusion of participation if not democracy while at the same time various oligarchies some established, some spontaneous, operate independently outside these structures, working more or less along the lines of the old collegial model. It may not be that democratic structures or procedures themselves fatally limit university capacity for and speed of decision but rather inability to bring the most relevant knowledge and judgment from within the organization to bear on a particular set of decisions at a particular time.

Wider and active participation in university decision-making may lead to better decisions, more effective mobilization of support behind decisions, and above all to a greater organization from the rank and file. Responses to the cuts within universities have on the whole been so insignificant in their effects that the outsider may wonder about the depth and strength of commitment among university personnel toward university goals and objectives. It is this kind of doubt that has led to the confidence on the loss of public confidence in higher education.

The institute as a whole set up a multi-cultural centre to study the problems of educating teachers for work in a multi-cultural society. A full-time member of the Department of Comparative Education is one of three appointed specially to help in this centre. The future is not entirely without hope. Yours etc, BRIAN HOLMES, University of London Institute of Education.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Order of the sonnets

Sir - Your issue (September 11) carried Professor Kenneth Muir's review of my book, *New Poems by Shakespeare: Order and meaning restored to the Sonnets*. I should hold it to be a disservice not to write in reply a point which touches me as a doctor and psychiatrist. A rather cumbersome sentence of mine has apparently led him to misread it by omitting a crucial negative. The sentence (p 78) runs:

"If William had not actually contracted syphilis (and ... [The neonatal deaths of his two children] ... suggest that he may have), the chief consequence of the whole episode would have been that it turned him into the compulsive womaniser that Lord Clarendon was to describe."

It is not my medical opinion and I never has been my opinion that promiscuity could be "blamed on syphilitic infection". Anybody so infected may of course have made it his excuse for promiscuity (cf. the once popular belief that intercourse with a virgin could cure a sufferer), but that was not my point. My point was that his seduction, especially seduction by a woman whom he believed to be promiscuous, could have turned Herbert from being anti-woman into a womanizer.

My timetable of events differs from that which Professor Muir attributes to me. Most importantly, I

make Herbert hear Sonnet 144 (trifled after his seduction, not before it. So Shakespeare's couplet could even have been prompted by Herbert's account of his panic but not vice versa. I accept Shakespeare's implicit denial that he had ever had intercourse with the woman -

Will thou, whose will is large and spacious, Not once vouchsafe to hide my will in thine? - and do not make Shakespeare introduce Herbert "to a woman he knew to be infected".

For the rest, *fingentem dicere verum Quid vis?*

A tale may tell the truth and, as Aristotle remarked, there is a probability that the improbable actually happens. The factual basis for the events of Herbert's youth, perhaps not a little less meagre, gave sufficient straw for the brick. Moreover, although Fowler's *Triumphal Forms* offers one "numerological defence" which Professor Muir thinks would topple my "ingenious construction", I believe that the rearrangement of the first 125 sonnets as 31 tetrads and an epilogue furnishes a far stronger numerical argument. Mathematicians, please - your evidence!

Yours faithfully, JOHN PADEL, 14 Fitzjohn's Avenue, London NW3.

Shakespeare's psychology
Sir - I cannot disagree with Andrew Colman's point that Shakespeare did not play an active role in the development of psychology but surely the important issue is whether the bard was a psychologist or not? Judging by the number of times his work is quoted in the psychological literature he would appear to have been a competent observer and reporter of psychological phenomena and therefore, I would argue, a psychologist.

However, because he did not propose any theories or engage in problems solving activity he is considered to have produced only insight and not psychology. Psychology, as Andrew Colman sees it, is defined by its methodology rather than its subject matter and involves activity devoted to formulating and testing explanations by the process of problem-solving.

This is a particular fixed view of the scientific endeavour derived from classical and Newtonian physics which has now been rejected by the natural sciences in favour of a more flexible approach but nevertheless in the social sciences especially psychology it has come to epitomize activity regarded as 'scientific' as opposed to

'unscientific'. It is a philosophy of science behind which psychologists stand in their attempts to establish psychology as a science and has led to the production of thousands of statistical correlations and a multitude of conflicting theories but very few real insights.

Debates on the philosophy of science have become an intricate part of the scientific process in physics, biology and other sciences; the prevailing 'theory' being that methodological blinkers need to be removed before progress can be made.

Why is it then that psychology adheres to a primitive view of science and expends much energy defending itself as a science when its most valuable role is at the boundaries of knowledge, where the philosophy of science is being debated and where insights lead to new views of science. Until psychology advances from its present narrow view of science it should be defined by its subject matter and not a particular methodology and furthermore it should open its doors to any field, including literature, that lead to greater understanding.

Yours faithfully, ANDREW WOOD, Lancaster University.

Newnham novel
Sir - Andrew Belsey is unable to find the author of *A Newnham Friendship*, and John Schellenberger suspects there is no such novel. The copy I have in my hand (Blackie, 1901) ascribes the authorship to Alice Stronach. The first chapter, "A Co-operative Cocoa", begins, enticingly, "It was the first night of the Michaelmas term. All day long the gravelled path that led under the archway up to the college doors had crunched beneath the wheels of luggage-laden fiats ...". The book is part of the Newnham Collection in our college library, and as such is not lent out, but can be consulted there by lovers of the genre.

Yours faithfully, ANN PHILLIPS, Librarian, Newnham College.

Ministers hypocrisy

Sir - It is interesting to note that ministers consider the UGC "on all fours" with a Government department when obstructing the efforts of the Select Committee to extract vital information for the benefit of the Commons and the public, but an independent body when anyone suggests that its decisions are governmental policy for which ministers are responsible.

Yours faithfully, K. L. STRETCH, 1 Manor Close, Ashby-de-la-Zouch.

Union view

UGC must be more representative

The University Grants Committee has a lot to answer for in respect of the difficult situation in which many universities find themselves.

With the Committee of Vice Chancellors and Principals, the UGC has expressed the view that the cuts being imposed by the Government together with the Government's policy on overseas student fees are pressing the universities to economize too quickly. How then can the UGC justify a situation which they have put into effect whereby some institutions are expected to accept cuts far larger than those imposed by the Government?

The differential distribution made by the UGC ranges from 0.24 per cent which means in some cases losses of income of some 30-40 per cent over the years. This is untenable and one wonders whether the UGC is trying to do what the Government said it was not: close one or two institutions by financial pressure.

This is not the end of the story. In addition to financial measures the UGC has given student quotas to each university to be achieved over three years, and in most cases a fall in student numbers has to be met. When challenged, the UGC tries to imply that this is a government decision. The Government for its part says the whole matter is the responsibility of the UGC and that in any case, the figures are targets, not ceilings. The question must therefore be asked: Why is the UGC operating the student quotas as ceilings and deducting money from the grant when these figures are exceeded?

AUT

When pressed on this the UGC just clams up. All this throws into question the whole makeup and methods of the UGC.

As it operates secretly, nobody knows the basis of its recommendations to individual universities. One is almost horrified to learn that it recommended closing down certain departments in certain institutions although it had not visited these departments for 10 or 11 years. Furthermore, the principles on which the UGC operated were stated in the most general and nebulous terms.

This situation cannot go on. It is the Association of University Teachers view that the composition of the UGC must be changed so that it becomes more representative, not only of universities but of the public. Secondly, this buck-passing between the UGC and the Government must end so that the UGC's deliberations and the reasons for its decisions can become widely known and be subject to criticism and appraisal by both the universities and the public. If the UGC can justify its actions it has nothing to fear. If it is afraid to justify them publicly then they should never have been taken. Over several months the AUT has constantly warned the UGC of the effect of its differential cuts policy. Nevertheless it has gone ahead and the worst fears of the AUT have been realized. If the UGC now falls into general disrepute it has only itself to blame.

There is further difficulty ahead. The UGC has stated that it has £20m available for compensation schemes for early retirements etc. in order that universities can reduce staff. It has not yet stated what principles it is going to follow in distributing this money. Thus, university governing bodies are in an impossible position in making offers to staff.

During the spring and early summer the UGC spent days and weeks working out the basis of its distribution of the recurrent grant. It might now take some time to look at itself and its methods of operating.

Laurie Sapper

The author is general secretary of the Association of University Teachers.